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Excavations at Ur, 1927-8

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DURING the winter season of 1927-8 the Joint Expedition of the British Museum and of the Museum of the University of Pennsylvania was engaged upon two distinct pieces of work ; at the beginning of the season, for about nine weeks, we continued the excavation of the early cemetery discovered in the previous year, while for the rest of the time the whole gang was employed on the clearing of the interior of the great courtyard building which lies in front of the north-east face of the Ziggurat. Field work started on October 17 and continued until February 18, the average number of men on the pay-roll being 130 for the first half of the time, and 170 for the second half. This year there was no architect with the expedition, for the reason that the plan of the courtyard building had already been made out and for the digging of the cemetery the services of an architect would not be required : otherwise the staff was the same as last year, my wife being responsible for the drawings, the Rev. E. Burrows, S.J., for the inscriptional material, and Mr. M. E. L. Mallowan acting as general archaeological assistant. The extraordinary richness of the discoveries meant even harder work than usual, and it was at times difficult to keep pace with them, but by occasional shifting of the gang from the graves to the courtyard this was made possible, the respite so gained enabling us to catch up temporary arrears : but I owe it to my assistants to express my gratitude for their whole-hearted co-operation. As usual, Hamoudi of Jerablus was foreman, and was invaluable ; his two sons, Yahia and Ibrahim,

served under him as junior foremen, and the former did all the photographic work also.

The clearing of the courtyard proved a bigger task than I had estimated it to be. Below the ruined brick pavement laid down by Nebuchadnezzar (600 B.C.) there was an artificial deposit of earth some 3.00 m. thick brought in to raise the level of the court; in places this earth contained numerous sherds of prehistoric painted pottery, and must have been dug out by the seventh century workmen from a pit going down into the lowest strata of the ruins. In 1923 we had exposed part of the next pavement; it contained a few bricks bearing the stamp of Adad-aplu-iddinam (c. 1080 B.C.), but owing to the apparent connexion of the pavement with a wall of Kuri-galzu we were then inclined to attribute the pavement as a whole to the earlier Kassite king and to regard the Adad-aplu-iddinam bricks as due to repairs to the old floor. This year it was found that immediately beneath this pavement there lay another which was undoubtedly the work of Kuri-galzu (1400 B.C.), so that the upper level is of later date and may all belong to the eleventh century. Below the Kuri-galzu floor the different levels come so close together that all were much confused and each phase of rebuilding had entailed the virtual destruction of the old; only patches of paving survived and walls had been razed down to or below their foundations. The site was further complicated by the presence of numerous bases or pedestals of solid brickwork, ranging in date from Ur-Engur to Sin-idinnam (2300 to 2000 B.C.); the tops of these seemed to have been more or less flush with the pavements of the period to which they belonged, while their foundations were sunk from half a metre to three metres below that level, and penetrated into strata rich in painted pottery sherds of the prehistoric age. Further excavation is required to throw light on the character and purpose of these bases and on the early history of the site. It is safe to assert that the courtyard building is an essential part of the principal temple of Nannar, the sanctuary of which lay higher up on the terrace of the Ziggurat, and to have established this fact and something of the record of the building is in itself a not unsatisfactory result of the partial work done up to the present; but a detailed account had better be deferred until another season shall have completed the clearing of the site. When this is done we shall have worked out the whole of the Sacred Area of Ur, the great enclosure E-gish-shir-gal, which was the temple complex of the Moon god.

Owing to the destruction of the lower levels and the fact that the bulk of the soil to be removed represented an artificial filling, very few objects of interest were found in the course of the work.

A small fragment of a First Dynasty limestone relief from a mosaic frieze like that from the temple of al-'Ubaid, the upper part of the figure of a man punting a boat, proved that there had been here, or in the neighbourhood, an early building (of whose walls no traces were discovered) elaborately decorated in the al-'Ubaid style. More important was a fragment of a figurine in painted pottery, identical in paste and pigment with the prehistoric hand-made wares of Ur, Eridu, and al-'Ubaid; such human figures are extremely rare in this material, and the present example is remarkable in that it has a very long and very thin beard descending over the chest, just such a beard as is worn by the figures in the very early shell and slate inlay panel found at Kish. It is the first appearance of this long beard in the south country, where the oldest pictures of men, as on the 'standard' to be described later, show either the clean-shaven or the short-bearded type familiar as Sumerian. In the south we have, so far as can be observed at present, a complete cultural break between the age of painted pottery and the beginning of what we can call Sumerian, and this figure may well be taken as showing a change of fashion answering to a difference in racial type. No painted pottery survives into the earliest Sumerian times. At Kish a painted pottery related to the southern types but obviously later in character is found in connexion with clay tablets inscribed with primitive Sumerian script, proving that here the use of painted pottery continued into the period when Sumerian culture was establishing itself in Semitic-speaking Akkad. Further north painted pottery survives to a much later date. The explanation seems to me to be that painted pottery is an Akkadian, not a Sumerian product; that at the outset the Akkadian population extended down to the extreme south of the river valley; that in the south their occupation came to an abrupt end, resulting in the disappearance of the old hand-made decorated wares and the unchallenged vogue of the plain wheel-made wares characteristic of the higher Sumerian culture, while further north where the Akkadian element still predominated the native industry held its own, and was only beaten in the long run by the cheap machine-made article. The best occasion for the change is afforded by the Flood which is the point of reckoning for Sumerian chronologists. The area of its devastation corresponds roughly to what became the kingdom of Sumer; certain Sumerian cities are recorded to have survived the deluge, which is natural enough for a well-walled town raised on an artificial platform. The Sumerians were city-builders as compared with the less civilized Akkadians, and if the latter occupied open villages on the flat, as presumably they did, they would have been exposed to the full

force of the disaster ; the drowning out of the Akkadian element would depopulate the lower valley and enable the Sumerians to advance northwards from their cities at the head of the Gulf and to occupy the country where they are found at the beginning of the historic period. All this may sound a conjecture too elaborate to be based on the peculiarities of a single clay figure, but in truth the figure is only one, though perhaps the most concrete, of many pieces of evidence which await explanation, and nothing so well accounts for them all as that of the deluge which the Sumerians at least regarded as a natural fact marking an epoch in their history.

The rest of this report must be devoted to an account of the graves whose excavation occupied us for the first half of our season. About three hundred graves were dug, belonging, like those found in the previous season, to three periods, and on the whole the new discoveries confirm the conclusions then formed. The later graves are of the Sargonid age (the exact date was given by the finding in 1926-7 of seals of Sargon's daughter, and though no fresh inscriptional evidence is forthcoming, the character of the objects in general is in perfect agreement with that of last year), and they are homogeneous and separated by a very marked break from the older series which underlies them. The next series we call 'Graves of the First Dynasty of Ur', but the comparison of their contents with those of the (First Dynasty) graves of al-'Ubaid on the one hand, and with those of the pre-First Dynasty graves of the 'A' cemetery at Kish on the other, confirms me in my view, expressed in last year's report, that the *floruit* of the cemetery extends down to, but does not coincide with, the duration of the First Dynasty, and that its period would better be expressed by the date, in round figures, of 3200 B.C. The question remains whether this second series is distinct from or is a continuation of what last year I described as the third series and attributed to (about) 3500 B.C.: some of the evidence on which I then relied for a definite break between the two now seems to me less convincing, but on the other hand proof has accumulated that the lapse of time between the later graves of our second series and the earliest graves in the cemetery is a very long one. There has not yet been time to make that minute analysis of the graves and their contents which alone can establish the fact of continuity or of a time interval ; more important at the moment, in view of the bearing of date on the relations between Sumer and Egypt and on the early history of civilization, is the argument for the great antiquity of some of our graves.

The first task that we had before us was to complete the

excavation of the grave (PG/580) which in 1926-7 had produced the gold dagger and had been left unfinished at the end of that season, and to explore a site which I believed to contain a royal grave. The former yielded a further store of fine objects, gold beads, including examples of filigree and cloisonné work, engraved shell plaques, etc., but had been so thoroughly ruined in antiquity that no trace of any burial survived. The latter (PG/777) proved to be a royal tomb of a sort hitherto unknown but destined to become familiar as the season progressed, a stone-built chamber with stone corbelled roof constructed over a wooden centering lying at the bottom of a large earth shaft. From the architectural point of view it was extraordinarily valuable and it afforded certain chronological data of importance, but here too the tomb robbers had been before us and comparatively little in the way of objects survived. The whole gang was then set to work on a fresh plot of ground. Digging started from the surface and graves were found freely from a depth of about two metres to that of thirteen metres; the position of each grave was recorded and its depth below present ground level, and, what was equally important but more difficult, evidence was amassed for estimating the surface contours at the various periods represented by the cemetery. The present ground level is a gentle and fairly uniform slope, but this bears little relation to what there was here in ancient times. The ground runs down to the NE. from a long ridge whose summit is crowned with a series of buildings excavated by us in 1925-6, buildings resting on a series of prehistoric terraces whose lower steps have been not only exposed but much denuded by time and weather; the graveyard extends from the edge of the lowest terrace north-eastwards. Below the foot of the terrace there is a heavy talus of town rubbish, ashes, brick earth and burnt clay, broken pottery, etc., in well-defined strata that slope violently down from the terrace face, the slope growing less steep, of course, as the talus extended further out from the wall. Further away the surface of the rubbish deposit becomes more and more irregular, a series of mounds and hollows, probably implying that the rubbish was not thrown from the terrace any longer but was carried out and dumped on the lower slope. Over the top of all this lies a deposit, of varying thickness, of grey brick earth and broken pottery, the debris from houses built of crude brick, apparently not dumped but brought down by wind and rain from the inhabited terrace area, but here, too, there is much irregularity of surface complicating the general slope of the ground from SW. to NE. The earliest graves are dug down through the lower part of this grey deposit into the many-coloured strata of the

earlier rubbish-dump (which must therefore be much earlier than they), and the grey filling of their shafts can easily be distinguished from the undisturbed strata of the shaft walls; the silting up of the area went on throughout the whole time during which it was used as a graveyard, and the later graves are high up in the grey stratum. That the ground was very irregular even in the latest cemetery period, is proved by the fact that when buildings began to be erected here in the Third Dynasty of Ur, and again in the Larsa period, wholesale levelling had to be undertaken; masses of potsherds, broken brick, etc., were dumped over it not only to correct the main slope of the ground but also to fill up the pockets and hollows which diversified its surface; the character of the potsherds in these dumps and the occasional occurrence of broken building cones and inscribed bricks dates the work of levelling. Incidentally it is clear that a certain amount of tomb plundering was done by the workmen employed on the work, plundering confined for the most part to the later graves, but the finding of a cone of Ur-Engur in a definite shaft driven down into a corner of the royal tomb PG/777 shows that there were some cases at least of deliberate and organized robbery.

From this it is obvious that depth below the present surface is *in itself* no criterion of the age of a grave. Even supposing that graves were dug to a more or less uniform depth (whereas in fact a poor man's grave would be much shallower than a king's) the measurement would be taken from the ground surface at the time, which is not that of today; so much steeper was the slope that a Sargonic grave fifty metres away from the terrace edge, and constructed originally in a hollow, may be found at ten metres below the modern surface, while close to the terrace a First Dynasty grave may lie at a depth of half a metre. It is difficult to make allowances for such irregularity over a wide area; the safest evidence is given by the relative depth of graves which can be brought into definite relation with each other, especially by the direct superposition of one grave above another, and fortunately, owing to the overcrowding of the cemetery area, cases of superposition are very common.

Figure 1 shows a section of a part of the cemetery in which occurred the royal graves. All the private graves appearing on the section were dug down into the shafts of the royal graves and are therefore later in date than they, and of them several lie directly one above the other and must therefore form a sequence in time amongst themselves.

Two of the graves are comparatively late, namely 733 and 746. They do not contain any object definitely Sargonic in type but

might possibly belong to that period, and in any case must come at the end of the 'First Dynasty' series. All the rest, in so far as they contain datable objects, are of the early period, i.e. of that whose *floruit* is about 3200 B.C.

It is of course clear that where one grave lies directly over another it must be the later of the two, and it is likely that a decent interval of time elapsed before the second burial intruded on the first; where there are several such superpositions the total period represented by them must be considerable. Further, when so limited a ground-space is concerned, the varying depth of the

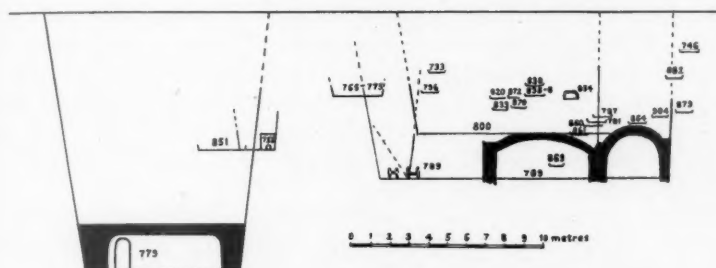


FIG. 1. Section through the cemetery, showing the royal graves.

graves must be due to the gradual rise in the ground level which we know to have been going on. That the depth was not piously calculated, as in a modern town cemetery, so that the later burial should be set immediately above the earlier without disturbing it, is proved by the fact that the lower grave has often been broken up by the intrusion of the later, and again by the converse fact that the two may be separated by a quite unnecessary space. If, then, the difference in depth between the lowest and the highest of a series of superimposed graves is accounted for by the accretion of soil, there is more reason to allow for a considerable lapse of time between them. Thus in the present case if PG/746 which is of the 'First Dynasty' series, is of about 3200 B.C. or slightly later, PG/797 must be well before that date, certainly by as much as a hundred years.

Then we come to the royal tombs which underlie them all. As I shall describe later, these royal burials were accompanied by human sacrifice on a large scale, certainly increasing the veneration that would attach to a king's burial-place, and probably implying that to the kingly dignity there was added in a measure the awe of godhead. We have evidence to show that something in the nature of a funeral chapel built on the ground surface

marked the position of the king's grave, and even without that the site of it was not likely to be soon forgotten. It is unthinkable that private citizens should be allowed to dig their commoners' graves down into the shaft and violate the sanctity of a tomb dignified by the royal character of its occupant, sanctified by the blood of so many victims and protected by its chapel as long as that chapel stood and the king's memory was fresh in the minds of men. That the presence of the royal tombs should make the site popular as a cemetery is natural enough—half the graveyards of the Near East are clustered round the *weli* of some local saint—but that very feeling would ensure the inviolability of the king. Between the date of the Queen's tomb (PG/800) and the earliest of the intrusive burials there must come an interval long enough for the memory of king and queen to perish and for the superstructure of their tombs to have decayed away, and for this we must assign a century at least. Even this modest computation would make the queen's date about 3400 B.C., and her grave is not the earliest in the cemetery.

Large as was the number of graves dug in the course of the season, the bulk of them were so overshadowed by the discovery of the royal tombs that for the purposes of this preliminary report they must be passed over in silence, although many of them produced objects which in a normal year would have merited and received full description; out of the three hundred graves I propose to deal here with five, and of these four only answer to the definition of a 'Royal Tomb'.

Throughout the whole cemetery-period the graves are of one type, modified only in details. A rectangular shaft measuring about two metres by a metre and a half is sunk into the ground, over the bottom of it is stretched a piece of reed matting, and against one side of the pit is placed the body; the body may be simply wrapped in matting—this is the poorest sort—or it may be placed in a coffin of wickerwork, of wood, or of clay; these specific differences which constitute the variations from type are all found at all periods. With the body there are placed the more personal ornaments and, generally between the hands, a cup of clay, stone, or metal containing drink for the dead man; outside the coffin or the matting roll, in the open space at the shaft's bottom, the mourners set their other offerings, vessels containing provision of food and drink, weapons, tools, and all such things as a man might be expected to require for his passage to or sojourn in another world; sometimes, especially in the later times, a boat roughly modelled in bitumen and loaded with a cargo of food-stuffs might be provided, perhaps for the actual conveyance of

the soul. Over the coffin and the offerings alongside it matting was spread, and the earth was thrown back and the grave shaft filled in level with the ground.

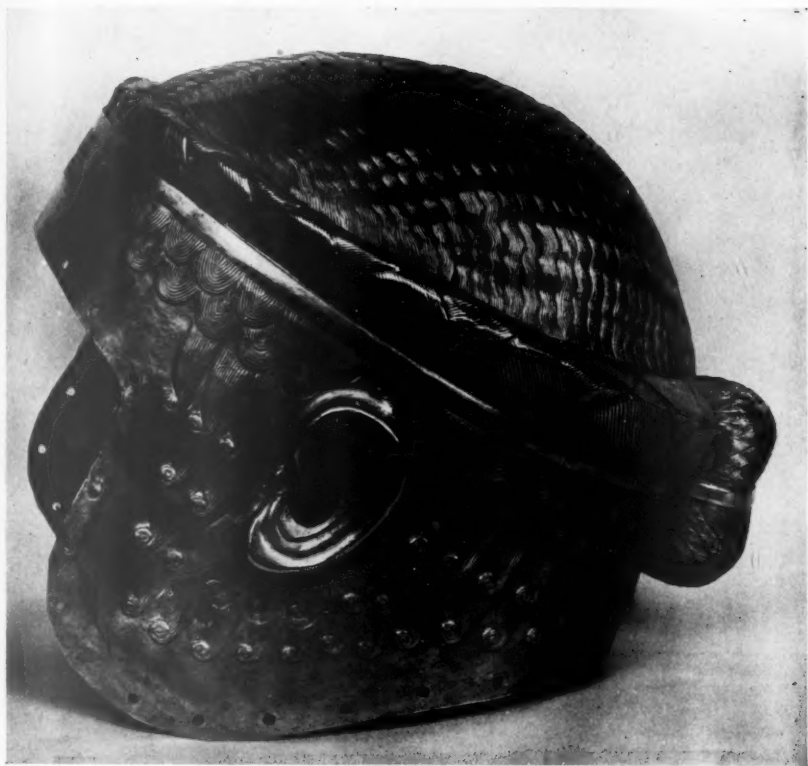
In the case of a royal grave the original excavation took the form of a pit, more or less rectangular, and measuring as much as twelve metres by nine metres in area; the sides were as nearly vertical as the nature of the soil allowed, but at one point a sloped or stepped approach led up from the bottom of the shaft to the ground surface. In the pit was a tomb chamber of stone, or stone and brick. Here the individual graves differed. PG/779 contained three chambers, parallel and opening one out of another, which together filled the whole area of the shaft; PG/777 contained two chambers, one large and one small, which again filled the whole area; in PG/789 the single tomb chamber occupied only one angle of the shaft and the rest was left open to the sky, only the earth walls being hidden by reed matting; and in PG/800 the tomb, also consisting of a single chamber, lay at one end of the shaft and at a lower level than its floor, though in this case there was probably a special reason for the irregularity. The king was buried in the masonry chamber, either in a coffin or on a bier.

The other feature which distinguishes the royal burial is the rite of human sacrifice. In the chamber containing the king's body there are found those also of two or three personal attendants, while in the outer chambers or in the open shaft beyond the chamber there are numerous bodies of soldiers, courtiers, attendants, and women; in PG/789 there were in the outer grave no less than fifty-nine human bodies and six bodies of oxen. In the private graves there is absolutely nothing corresponding to this, not even a clay figure that one might regard as a substitute for the actual victim marking the decadence of a custom once general and in the fourth millennium B.C. surviving only in the case of a king; human victims are only found associated with tombs containing masonry chambers. In the later Sumerian and Babylonian literature there is no hint of any such practice as this. It is true that no royal graves of the historical period have yet been found, and it is therefore impossible to state with certainty when, or whether, human sacrifice was discarded, but it is difficult to believe that had it survived until late in the second millennium such complete silence would have been preserved about it in the numerous religious records of the time that are extant. One is driven to conclude either that all memory of the custom had faded before the time when our records were written or that the writers were ashamed of anything in their past so barbarous, and deliberately refrained from mentioning it. In any case for the

character and meaning of the rite we are driven back on to the evidence afforded by the actual graves.

In every instance the bones are so broken and decayed that there is nothing to show the manner of death ; on the other hand the bodies are found in definite and appropriate positions, so that one might suppose them to have been marshalled in order and cut down where they stood, but generally speaking this order is so well observed as to suggest that if the corpses were not brought and laid here after death they were at least arranged after the victims had been cut down. Thus in the case of PG/789 six soldiers lay on guard at the foot of the sloped approach to the pit ; just inside the entrance were two heavy four-wheeled wagons each drawn by three oxen (which certainly were killed in their places after they had backed the wagons down the slope) and the grooms lay at the animals' heads and the drivers either across or alongside the wagons. Against the end of the masonry chamber there were nine bodies of court ladies, their heads, rich with gold ornaments, forming a very neat row against the stone wall ; in the narrow passage leading to the door of the chamber there were on one side more soldiers all with their heads against the earth wall of the shaft, on the other more women ; only in the middle of the outer grave, between the court ladies and the wagons, were the bones indiscriminately mixed. It has been suggested that the slaughter in the grave does not mean any sacrifice to the king, indeed, that the grave is not a royal grave, but that the whole thing is a purely religious rite, perhaps a 'fertility sacrifice', of which the occupant of the masonry chamber is the principal victim, and the rest subsidiary offerings. Against this view I would urge not only that the other graves in the cemetery are undoubtedly graves pure and simple, and presumably therefore the masonry tombs are the same, but also adduce the furniture of the tombs, the character of the human victims in them, and the order in which those victims are arranged.

Whether or not the men and women were killed where they stood (and against this might be argued the existence in the queen's grave (PG/800) of a stone-paved recess which may have been a place of sacrifice), their bodies are set in positions appropriate to their character. Those inside the king's tomb-chamber have been disturbed by robbers, but in the queen's tomb two were found crouched one by the head and one by the foot of the bier on which the principal body lay, and that is the natural place for personal attendants. In the king's grave the soldiers keep guard on the entrance to the grave and on the door of the chamber ; the more richly dressed women—presumably those of



The gold helmet of Mes-kalam-dug



1. Fragment of inlaid gaming-board from Pg/779 ($\frac{3}{4}$)



2. Lamp of translucent white calcite from a grave of the Sargonid period ($\frac{3}{4}$)

his harem—lie as near to the chamber as may be ; grooms and drivers are at their posts. The whole gives the effect not of a number of victims selected for sacrifice to propitiate some god, in which case they would be regarded primarily if not solely as offerings divested of any earthly function, but of a king's retinue where each person has his allotted task, and the function counts for more than the individual who performs it. The furniture of a royal tomb is the same as that of a private grave, except that it is far richer : the food vessels are the same, except that they may be of gold and silver, instead of clay or copper, and that there may be hundreds of them instead of three or four. There are the same tools and the same weapons, only of a more gorgeous type : the ox-wagons of the king, the ass-drawn sledge of the queen, the decorated stools and the golden harps are just what such royal persons used in their lifetimes, and therefore just what they would take with them to their graves. The richly adorned and crowned body lying on the bier in PG/800 might conceivably have been that of a priestess or chosen victim for sacrifice were it not clear that she is herself the centre of the whole rite, that the servants and attendants are her ministers, not her companions, that, like the vessels of silver and gold, they are part of the provision destined for her use, not offerings, of which she is one, made to some outside divinity.

Another point might be made here. It has been stated that in the ordinary private graves the furnishing varies according to the wealth of the dead person, but certain items are always present, the cup from which he may drink and, outside the coffin, one or more vessels containing food. The chief occupant of the masonry tombs is amply provided with such, but the subordinates buried with him possess nothing of the kind ; he retains his personality but they do not, they are as much his chattels as are the cups and the spears, the oxen and the harps ; it is not their funeral and therefore they do not require the provision which is his right. To me it seems perfectly clear that the principal person is buried, not sacrificed, and that the rest are sacrifices in his honour.

Are we right then in calling these royal graves and their occupants kings and queens ? It must be admitted that such inscriptions as we have found do not amount to proof of this. Shub-ad's title is simply 'Lady', and though the position of the word, coming as it does after the name instead of before it, may make it more distinctive—'The Lady' *par excellence*—yet this is not necessarily true. We have such names as Lugal Ar-bargi, but here again *Lugal* need not necessarily mean 'king', as it does when used as a title, but may be simply part of a compound name.

The purely philological argument is not conclusive; perhaps a measure of support for the view that *Nin* and *Lugal* are really titles, 'queen' and 'king' is given by the fact that they occur in the masonry tombs where there are human victims, whereas Mes-kalam-dug, whose grave is almost as rich but of the normal type, boasts no title at all, i. e. their presence is one more peculiarity distinguishing the four masonry tombs from the others even where the wealth of furniture makes the distinction least marked. Indeed the resemblance and the difference between the four tombs and the grave of Mes-kalam-dug is the best argument for the term 'royal' as applied to the former. Mes-kalam-dug with his golden vases and weapons and his golden wig, which is the helmet worn by E-annatum on the Stela of the Vultures, certainly merits the title of Prince, but his grave is merely a larger version of the hundreds of commoners' graves that we have dug; the occupants of the four tombs possessed some attribute which demanded that human victims organized as the personnel of a royal court should accompany them in death. Sacrifice is the prerogative of godhead. We know that in later times at any rate Sumerian kings were deified after their death and even during their lifetime; we do not know when that custom originated, but it prevailed in the latter part of the third millennium before Christ and may well have been practised a thousand years earlier; on this supposition we have a reasonable explanation of facts which otherwise have no precedent and no parallel.

PG/755. THE GRAVE OF MES-KALAM-DUG (pl. LVI. 1)

The grave pit was 2.50 m. long by 1.50 m. wide and the bottom of it lay at a depth of 6.75 m. from the modern surface. Against the north-east side of it was the coffin, 1.70 m. long, 0.65 m. wide and 0.50 m. high; this was of wood, made in panels framed by stout uprights, of which there were three on each side, and had been painted red on the inside: the wood had rotted away completely and had left merely the impression of itself on the soil with traces of the red paint adhering to the smooth face of the impression. The vacant space between the coffin and the south-west side of the pit, and at each end of the coffin, was filled with offerings.

The first intimation of the grave was given by a slender copper rod, set upright in the earth at the west corner of the shaft; close to this was discovered the head of a spear also set upright against the north corner of the coffin; the head was of copper, leaf-shaped with parallel ribbing, and the upper part of the wooden shaft, which was originally 1.80 m. long, was plated with thin gold, worked in imitation of the notched stem of a bamboo. Against the north-west end of the pit there had been set a row of spears with their copper heads downwards, resting in a narrow trench 0.30 m. deep, which had been dug to receive them. They had been put here before the earth was thrown into the shaft, not

driven into it after the earth had been replaced, for their points carefully avoided the stone and copper vessels placed close together between them. In this narrow north-west space at the head of the coffin and close to its north corner there was a group of vessels of which one was the beautiful fluted gold bowl with lapis lazuli handles illustrated on pl. LVIII, fig. 2a, another an electrum bowl, a third a small electrum cup, and the rest of silver, including a tall libation-jug and paten. In the space to the south-west of the coffin there were five daggers with copper blades and decorated hilts, one with a lunate gold hilt of unique form, one with a gold-studded hilt, and two with hilts of silver; all were in bad condition. With these lay a mass of hollow conical studs of copper attached to remains of wood; they may represent a large metal-studded shield. In this western half of the space there were three oval silver bowls, but the bulk of the vessels were of stone or clay; the latter were invariably smashed by the weight of the soil and so disintegrated by salt that nothing of them could be preserved, but there were three steatite bowls, and ten vases of white calcite; in the west corner there were two axe-heads, chisels, and a large whetstone and stone pounder. In the eastern half of the space was a large copper cauldron supported on four feet in the form of bull's legs, four other large copper vessels, a large steatite bowl, and, in the corner of the shaft, a mass of forty or fifty copper and silver bowls corroded together, and for the most part in bad condition. Against the south-east end there was another row of copper spears set head downwards in the ground, two copper axe-heads, two silver bowls, two white calcite vases, and the remains of a quiver containing 15 arrows with reed shafts 0.30 m. long, and flint heads of triangular form with slightly convex cutting edges. All these objects had been arranged in order at the bottom of the shaft, resting on the reed matting which covered its floor.

Inside the coffin the body lay with its head to the north-west; the trunk was virtually on its back, the arms across the chest, but the body was twisted so that the legs faced to the left, slightly flexed; the bones were much broken and decayed. The gold helmet, originally placed on the head, had fallen away to one side, exposing the broken skull (pl. LVII. 2).

The Gold Helmet. This is the most important single object found in the course of the season (pl. LIV). Beaten up from a sheet of 18 carat gold it is in the form of a wig, the locks of hair being in relief, and the single hairs shown by engraved lines; the work is astonishingly fine. The hair is long, the side hair plaited in two tresses which encircle the head and are kept in place by a narrow ribbon, the back hair also plaited into a small chignon; in front of the ears, which are in full relief and pierced for hearing, there are short whiskers dressed in horizontal rows of formal curls. Inside the helmet was a cap of quilted stuff, the border of which was brought up over the edge of the metal and secured by lacing through the eyelets which run round the rim; here can clearly be seen a band of brighter colour where the metal was protected by the cloth. Near the ends of the cheek-pieces there are larger holes, one on each side, presumably for the attachment of the chin-strap, of which, however, no trace could be found; it was perhaps of leather. The helmet is of the type of that

worn by E-annatum on the Stela of the Vultures, and is quite different from the ordinary copper helmet of the private soldier, of which examples were found in grave PG/789.

By the right shoulder lay (2) a gold lamp of the normal type in the form of a shell cut in half lengthwise; outside, on the base, was inscribed the name of the owner, Mes-kalam-dug, the Good Hero of the Land. Length 0.168 m. (pl. LVIII. 1, c).

(3) by this was a double-bladed axe, of a type not previously found in the cemetery, of electrum. Height 0.085 m., width 0.12 m.

(4) an oval bowl of gold inscribed on one side 'Mes-kalam-dug'. This type of bowl is common in silver, occurs in copper, and is frequently imitated in stone. It is a pure metal shape; an ellipse was cut from a flat sheet of gold, two segmental pieces cut out from either end, between the base and the rim of the vessel, and the sides were then brought up by hammering; where the cut ends came together the joint was strengthened by a pronounced rib, the only ornamental feature of the bowl. Measurements, 0.22 x 0.12 m. x 0.07 m. high.

(5) lying like (4) in the crook of the right arm was a second gold bowl, hemispherical in shape and quite plain except for the inscription 'Mes-kalam-dug'. Height 0.12 m., diam. 0.135 m. (pl. LVIII. 3).

(6) round the body, loosely set along the left thigh and round the waist, was a silver belt of very thin metal plate originally backed with leather; it was completely oxidized and could not be preserved. Attached to it and hanging down against the right hip were three objects, one a silver tool (?) on a gold ring, the metal too far oxidized for its form to be recognizable—it may have been a set of toilet instruments; the second (7) was a whetstone of lapis lazuli hung on a gold ring, the third (8) was a dagger of which the blade was of gold (length 0.222 m.), the guard and beginning of the hilt of gold with decoration of gold studs, the grip of silver (this entirely decayed), and the pommel decorated with gold studs; the sheath had been of silver, and of this also very little remained. Fortunately sufficient traces were left in the soil for the shape of the silver hilt to be determined; the weapon as restored is second only to that with lapis lazuli hilt found last season.

Just by the dagger, and probably attached to the belt, was a cylinder seal of white shell; it was a large seal of the sort commonly found bearing scenes of fighting animals, but unfortunately was so decayed that nothing of the engraving was left (9).

Between the right thigh and the side of the coffin (10) was a mass of double-conoid beads in gold and in lapis lazuli of unusually fine colour; they were in disorder, but had clearly been strung alternately. With these were two amulets of lapis lazuli, one in the form of a frog, the other in that of a seated ram (pl. LVI. 2).

Resting on the legs below the knees were two silver lamps (11), one inside the other; both were in poor condition and the lower of the two completely decayed.

Against the left upper arm, between the bones and the side of the coffin, there was a mass of small objects (12); the most important of these was a pin of which the shaft (broken) was of copper, while the head was of gold in the form of a seated monkey; the monkey is only



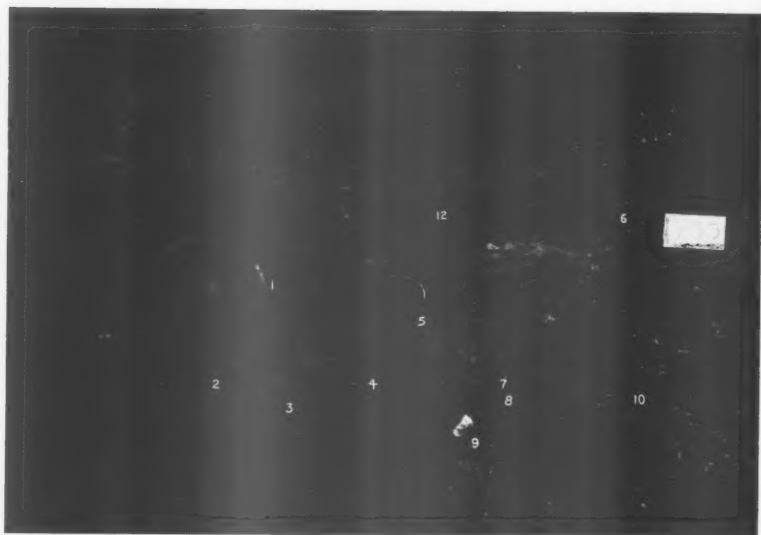
1. Part of the cemetery showing grave of Mes-kalam-dug (A) and grave 779 (B)



2. Gold monkey and two lapis-lazuli amulets from the grave of Mes-kalam-dug



1. Spouted lapis-lazuli cup and decorated steatite bowls from Queen Shub-ad's grave



2. The inside of the coffin of Mes-kalam-dug, showing the objects in position

0.016 m. high, but the realism of the treatment and the delicacy of the execution are alike remarkable, and make of this little work a masterpiece in miniature (pl. LVI. 2). An electrum axe-head of normal type lay close to the left shoulder, and it seemed that the wooden haft had been held in the left hand against the arm.

The other objects collected here were not unusual in themselves, but were unexpected in this connexion; there was a gold pin with fluted lapis lazuli head, a set of silver bracelets, silver rings, gold spiral rings, such as were worn in the hair, a number of gold leaf pendants originally strung with beads of lapis lazuli and carnelian, and a quantity of lapis beads. These form the ordinary jewels of a rich lady and their presence in a man's grave is surprising. There was no second body to account for them, and from their position it was evident that they had been placed in the grave in a confused mass, not in their order as worn—thus the gold pin had its shaft through some of the gold and silver rings, and two of the bracelets were interlaced. Every analogy points to their having been female ornaments such as Mes-kalam-dug himself would never have worn; it is tempting to connect them with the practice exemplified in the (earlier) royal graves of burying women wearing similar regalia with the dead king, and to suppose that here we have evidence of a survival and a change, the human sacrifice being suppressed and the jewellery alone dedicated as a substitute for her who had worn it.

The complete tomb-group of Mes-kalam-dug was retained by the Iraq Government for the national Museum at Baghdad.

GRAVE PG/777

The grave shaft measuring 6.50 m. by 6.35 m. lay immediately under a patch of lime pavement with what appeared to be a libation-hole at one end which had been discovered in the course of the previous season: probably this was the floor of a funerary chapel. The corners of the pit were accurately orientated to the cardinal points of the compass, and the whole of it was occupied by the masonry tomb-chambers. On the south-east side the area of the pit had been enlarged, and here was the approach to the tomb door which opened out of the east end of this south-east wall, directly from the inner or smaller chamber. Against this wall was found a subsidiary burial disturbed by a shaft sunk (by tomb robbers) soon after the period of the Third Dynasty of Ur; it was presumably the burial of an attendant and probably of a soldier set to guard the tomb.

The shaft had been sunk through the sloped coloured strata which represent the rubbish dump thrown out from the walls of the prehistoric settlement, these strata being particularly well-marked at this point; they were traced for 3.00 m. above the roof of the chamber and 1.80 m. below its floor.

The enclosing walls of the tomb structure were one metre thick, made of unshaped limestone set in mud; the material was not coursed, but was employed rather as in building with concrete, stone and mud together being thrown in between a wooden caisson and the earth side of the shaft; on the north-east side, perhaps owing to the soil here being less solid, the outer wall was partly in plano-convex mud-brick. Inside,

a party wall of stone divided the structure into two chambers, that to the south-west measuring 4.35 by 2.60 m. and that to the north-east about 0.90 m. by 2.60 m., but the wall was in too ruinous a state for accurate measurements. Both chambers had been vaulted with stone, and in both the roof had collapsed entirely, but it was possible to ascertain the method of its construction. In the smaller chamber there had been beams laid across from wall to wall at intervals of about fifty centimetres, but they seemed hardly stout enough to have borne the weight of the stone lying over them if that stone had formed a flat roof. In the larger chamber there was not any sign of timbering in the roof, and the stones, though fallen, showed much more clearly that the construction had been a corbelled vault, the overlapping blocks being set in a tenacious red clay, with a thick bed of greenish clay spread above the whole. Since this was the first evidence we had obtained of the use of corbel vaulting at so early a period the greatest care was taken in noting the position of the stones, etc., but as in PG/779 standing examples of the same system were discovered, the evidence from this broken tomb need not be given in full and the mere statement of its character will suffice. The smaller chamber had had a plain barrel vault built over a centering which had not been removed after the completion of the stonework; the centering consisted of beams over which had been spread, probably, matting, and above this had been heaped light earth and straw to the shape of the inner face of the vault, and the stones had been laid corbel-fashion against this. The larger chamber, virtually square, had had its angles taken off by rough pendentives and its roof must have been more or less domical in form; either it had been constructed without centering, or the centering had been removed. As is natural with corbelled work the mass of stone in the roof was very great near the walls, in the spandrels of the arch, and thinned down towards the middle where the final capping was a single course of large flat slabs.

The tomb had been plundered in antiquity. The dromos was on the south-east side leading to the south-east end of the smaller chamber, and the end of it was found to be still blocked with a solid mass of stones set in mud mortar extending 2.50 m. out from the doorway; the entrance of the thieves had been effected through the roof, and as this had been done before the timbers of the centering had decayed, the robbery had taken place not so very long after the burial. A (tomb-robbers'?) shaft close to the east corner, dated by a fragment of a cone of Ur-Engur found at the bottom of it, seems to have missed the tomb.

In the smaller chamber there were found the remains of four human skulls with bones all broken and in disorder. The objects with these included many lapis beads, some wooden beads, two silver ear-rings, three pins, one of silver with lapis head and two of copper, a copper dagger, four copper spear-heads of heavy conical type, three large copper vessels, and five small clay pots or saucers. So far as these fragmentary remains constitute evidence at all they would tend to show that the outer chamber contained the bodies of servants only.

In the larger chamber there were remains of at least four burials of which three lay towards the north, west, and south corners, and one

near the centre of the tomb; the body in the west corner was almost undisturbed, the rest had been broken up and plundered. With the body in the west corner lay a copper tumbler, a copper axe and razor, and a copper cup with lugs for suspension; three large beads of lapis and gold hung at the neck, and on the forehead was a diadem of gold, an elliptical plate decorated with a rosette in relief and secured round the head by gold wires. In the south corner there lay with broken bones and fragments of an ostrich-shell a group of twelve copper vessels, all very much smashed, a spouted vase, a strainer, a ladle, a shallow fluted bowl with handle, urns and flat dishes, and with these a small silver fluted bowl remarkably well preserved.

Towards the north corner was a group certainly representing another burial consisting of a vase of white calcite, a copper dagger, and three clay pots.

Near the centre of the chamber lay a few objects which may well have belonged to the principal occupant, supposing that that was a woman, or to one of the principal attendants. There was a large silver head-ornament of the usual type with long stem, broad palm-like body, and seven points terminating in lapis balls; a set of gold ring pendants and the lapis and carnelian beads with which they had been strung; many lapis beads; the remains of an elaborate diadem like that found by the side of Queen Shub-ad, gold rosettes and leaves mounted on gold-plated copper stems, palmette pendants of silver wire, and a quantity of narrow silver ribbon; these together clearly form the head-dress of a lady of the court or of a queen.

Plundered as the tomb was, the evidence was sufficient to prove that the principal person buried in it was accompanied by subordinates sacrificed in his or her honour.

GRAVE PG/779 (pl. LX. 1)

This grave also had been plundered in antiquity but afforded important evidence of constructional methods, and further produced one of the most important objects discovered in the course of the season.

The grave-pit was a rectangle measuring about 12.00 m. by 9.00 m., its corners orientated to the cardinal points of the compass, approached by a stepped dromos on the north-west side. The whole of the pit's area was filled with a stone construction, comprising three corbel-vaulted chambers, set parallel to one another and communicating by openings in the party walls which lined up with the arched doorway giving on the dromos. In each chamber the roof had fallen in, but enough of it was left standing at the north-east end to illustrate its character; of the entrance door the springers of the arch were found *in situ*.

The walls were of coursed rubble, the stones set in mud mortar. At the ends of the chambers the builders of the walls laid stones across the corners so as to form pendentives which reduced the angles to curves, and, on the half-circle thus produced, constructed apsidal ends to the vault. The inner face of the walls was plastered with a fine cement; most of this had fallen away but some remained, and in one place bore signs of discolouration, which may have been due to painting; the same cement was used for the floor of the chambers.

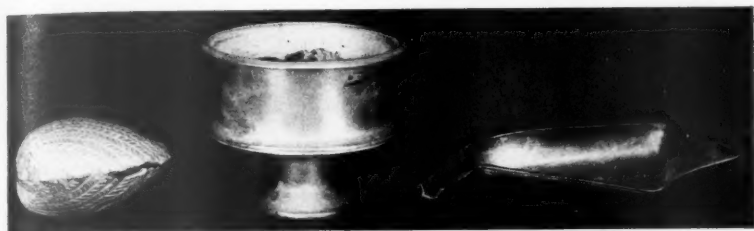
At the north-east end of the central chamber, farthest from the door, there was in the cement floor a rectangular depression which was almost certainly intended to receive the coffin, and at each corner of this a round hole as if for a post; it is possible that over the coffin there was erected a canopy or catafalque.

The door of the tomb had been arched with stone—limestone rubble like that of the walls—laid voussoir-fashion on the principle of the true arch. The blocking of the doorway was gone, and presumably the robbers had entered the tomb by the door, driving a shaft down in front of it. At the foot of the dromos-steps lay the bones of the soldiers of the guard; they wore no helmets, but their spears were in order by their shoulders.

The three chambers had been thoroughly plundered, so much so that different parts of the same object were found in different rooms, and it is not worth while here to give details about each thing. There were quantities of beads scattered everywhere, including gold leaf-pendants from wreaths, pins, tools, two vases of white calcite, fragments of copper and clay vessels; a shell cylinder seal bearing the name E(?)*-zida* was found amongst the fallen stones at the south-west end of the first chamber. In chambers A and B were fragments of several ostrich-shells decorated with incrustation work in shell, lapis lazuli, and red stone, and in chamber B, overlooked by the robbers, were two imitations of such shells, one of silver in very poor condition, the other of gold with part of the incrustation still adhering to its rim and base. Divided between chambers B and C were shell plaques from a gaming board very finely engraved with animal scenes.

In chamber C, where were found the remains of at least four bodies; there was associated with one of these a small gold cup rather roughly fashioned from a sheet of thin metal. In the east corner there was the skull with part of the body of a man, whose head was entirely covered with thousands of very minute lapis beads, apparently from a beaded cap, and against his right shoulder the mosaic 'standard' which is one of our finest objects.

The Standard (pl. LIX) measures 0.47 m. long by 0.22 m. high; it is a mosaic of shell and red paste or red stone against a lapis lazuli background, the tesserae set on wood overlaid with bitumen; the sides are rectangular, but were set at a slope so that the ends (also decorated with mosaic) are truncated triangles. My suggestion is that it was mounted on a pole and carried as a standard in procession—the position in which it was found would agree with that theory, and I can find no other explanation of its peculiar shape. When it was found the wood back had vanished and the bitumen was reduced to powder, possessing no adhesive qualities, so that there was nothing to hold the tesserae together. Large stones, fallen on it from the roof, had bent and distorted the panels, the right-hand lower corner of the 'Peace' scene had been broken up, much of the border had fallen away, the individual tesserae, which differ much in thickness, had sunk to varying depths in the hollow left by the decay of the wood, and the squeezing together of the main panels had caused the triangular ends to spring out in more or less disconnected fragments. The upper panel, 'War', was cleared a square inch or so at a time, care being taken not to dis-



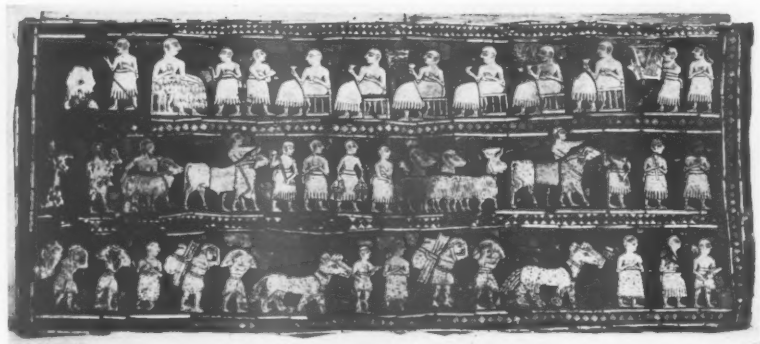
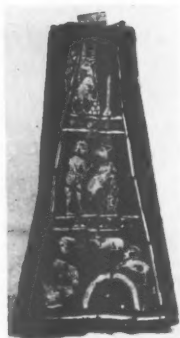
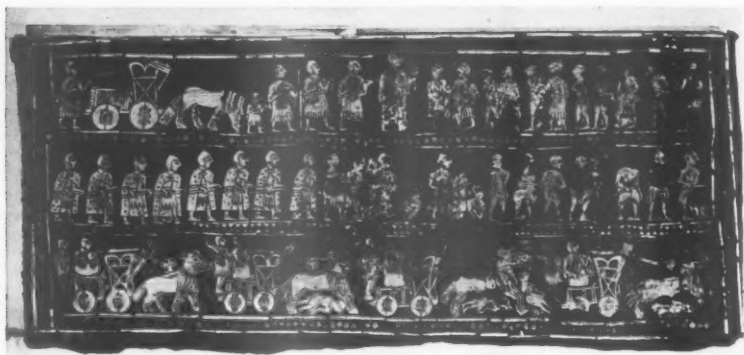
1. *a.* Gold cockle shell cosmetic box of Queen Shub-ad; *b.* gold chalice of Queen Shub-ad; *c.* gold lamp inscribed with the name of Mes-kalam-dug



2. *a.* Gold fluted bowl of Mes-kalam-dug; *b.* gold fluted bowl of Queen Shub-ad



3. Hemispherical gold bowl inscribed with the name of Mes-kalam-dug ($\frac{1}{2}$)



The Mosaic 'standard'

lodge the pieces, and solidified with hot wax as cleared, and when all was done it was fixed together with waxed linen and lifted in one piece; this disclosed the back of the second panel, which was treated in the same way; the position of loose pieces was noted before they were moved. Afterwards wax and linen were applied to the other sides. For restoration the wax and linen were removed from the face of the panel, it was laid face downwards on glass and heated, and the tesserae were pressed from behind until the whole was flattened and pressed sideways until the gaps left by the distortion of the panel were filled in, and this process was repeated many times. The result is that with the exception of part of the border and one corner of one panel there has been no reconstruction of the mosaic whatsoever; the pieces remain in the positions in which they were set by the original artist. Only in the triangular ends is there any modern work; one of these adhered to the end of a main panel and its order could be preserved, but several of the shell pieces had decayed, and the other was in complete disorder and had to be restored on the analogy of the first, which it resembled in subject. So far as the standard has suffered, it is due to the decay of the shell which has made some of the figures almost unrecognizable and accounts for the disappearance of two or three pieces—unless, indeed, these had been scattered to a distance and were overlooked by us in the soil, which is not likely: but apart from that the object is authentic and wonderfully preserved.

One side represents a scene of peace; in the uppermost of the three registers into which the field is divided the royal family is seated at a feast, the king distinguished by his tasselled skirt; attendants wait on them, at one end a harpist makes music, and beyond him is a woman singing. In the other two registers servants bring up materials for the banquet; one carries fish, others drive oxen, sheep, and goats, others bear loads on their backs supported by straps across the forehead, the same straps as are used to-day by the porters of Constantinople and Baghdad. On the other side—'War'—are represented the different divisions of the Sumerian army. In the top register appears the king, a tall figure carrying an axe and a broad-bladed spear, behind him his sons, of whom one is a small boy, and his empty chariot drawn by four wild asses; in front of him naked prisoners, their arms bound behind their backs, are brought in under guard. In the second row we see on the left the phalanx of heavy-armed infantry, wearing copper helmets like those found in PG/789, heavy cloaks, probably of felt, decorated with spots, and short kilts with points, perhaps made of leather thongs hanging from a belt; their weapons are short spears. In front of them are the light-armed skirmishers, who wear no cloaks and are armed indifferently with spears or scimitars, already engaged with the enemy. In the bottom register the chariots advance across the open, trampling the enemy under foot. Each chariot is drawn by four asses harnessed to a pole on which is fixed a double ring for the reins; its wheels are solid, made of two pieces of wood fastened together with (copper?) ties; the body, of which one side and the front are, by a false perspective, shown on the same plane, is panelled with a white shell framework filled in with red, perhaps a wooden frame and panels of dyed leather; to the front of the car is fixed a quiver containing four spears. In each

chariot there are a driver and a fighting man, the latter armed with a throwing-spear; in PG/789 we found no less than three sets of four spears each, and in each set there were two spears with their butt-ends forked for use with a throwing-cord and two plain, i.e. two were intended for long-range fighting, and two for close quarters; probably the four spears of the charioteer were similar.

If from the artistic and technical points of view the standard is remarkable, its importance as a historical document is equally great. Even more fully than the Stela of the Vultures does it illustrate for an earlier period than Sumerian army, which carried the empire and the civilization of Sumer to the slopes of the Taurus and to the shores of the Mediterranean, and laid the foundations of the later civilizations of the Near East.

PG/789. THE KING'S GRAVE (pl. LXI)

The burial pit was a rectangle measuring 10.00 m. by 5.00 m. and was entered by a sloped dromos in the north-west side at the west corner; the floor of the shaft was 8.30 m. below the modern surface. The tomb-chamber, measuring c. 4.00 m. by 2.00 m., lay in the north corner of the shaft and was orientated with its longer axis south-east by north-west; its door was in the south-east side and was approached by the narrow passage left between the chamber wall and the side of the earth shaft. The walls of the tomb-chamber were of limestone rubble set in mud mortar; its door, which we found still blocked by a rough walling of stone and brick, was capped with a true arch of flat burnt bricks laid voussoir-wise; its roof was a vault composed for the main part of its length of contiguous arches of burnt bricks, but the ends were rounded off and given an apsidal form by a combined system of corbelling and domical construction, i.e. the bricks were so laid that each course projected beyond the course below it, but they were at the same time tilted by the insertion between the courses at the back of potsherds or fragments of brick, which resulted in a segmental joint. The bricks measure 0.305 m. square (with half-bricks 0.305 by 0.16 m.) by 0.085 thick. It is curious to find these flat bricks used at this early date, whereas for buildings of the period of the First Dynasty of Ur plano-convex bricks are invariably employed; the same inversion of the natural order of development has been observed at Kish, but there is nothing to explain why the flat brick should have been abandoned temporarily for the more clumsy type. The arches did not all consist of the same number of bricks; in the part of the roof still standing the first arch contained 14 bricks, the second 17, the third 18, and it would seem that the vault was in consequence humped towards the centre, perhaps to diminish again at the far end. The radial joints were in some cases entirely of mud, in others they were strengthened by the insertion of bits of broken bricks. The doorway arch consisted of 26 bricks, giving a span of 1.15 m. (pl. LX. 2).

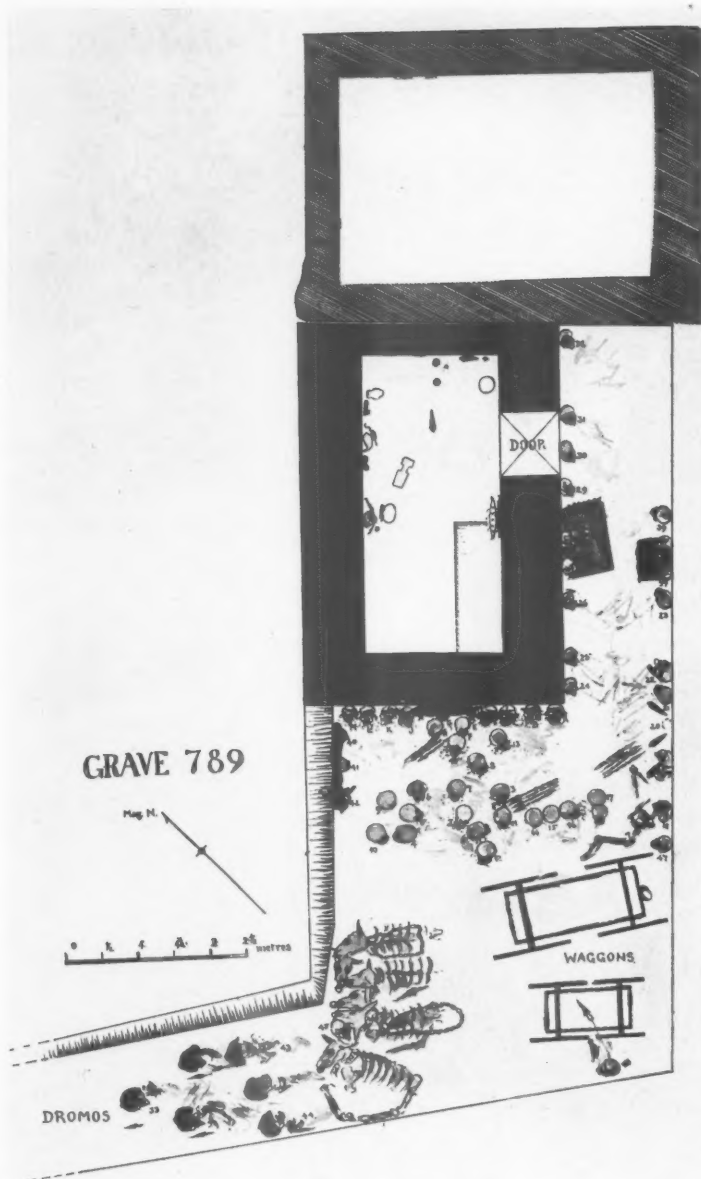
The method of roof-construction was clear. When the stone-work of the walls had been brought up to the full height of 1.50 m. above foundation level, a single straightening course of bricks was laid along the top, and beams fourteen centimetres square were stretched across from wall to wall; on these was put matting, and over the matting a



1. The stone-vaulted chambers of Pg/779



2. The blocked-up arched doorway and the brick vaulted roof of Pg/789



Plan of grave 789

rounded heap of light earth and straw, which made the centering for the arches to be built; numerous straws caught by the mud mortar in the interstices of the brickwork of the vault were still hanging down when the tomb was cleared by us and proved the nature of the centering employed. As the beam-holes contained the carbonized remains of the wood it is certain that the centering was not removed and that the chamber had in reality a flat ceiling protected by relieving arches against the weight of the soil above. The crown of the vault was heavily plastered with clay, and a single course of bricks was laid flat above this. The walls were mud-plastered inside and out, and the floor of the chamber was of beaten mud.

Outside the tomb-chamber the earth walls of the shaft were hidden, or at least the lower parts of them were hidden, with a dado of reed matting, and mats were also spread over the floor; but the pit itself was unroofed and open to the sky. Halfway down the dromos there was a circular pit 0.75 m. in diameter, cut down to a depth of 2.50 m.; at the bottom of it was water-sodden earth, but no objects were found in it. Just to the north of it was the lower part of a regular drain made of clay pipes, fitted one inside the other (only two sections remained, giving a length of 0.42 m. with diameter 0.22 m.); its connexion with the grave was not certain: the pit might conceivably have been a libation-pit, and if the drain belonged to it, the libations might have been made after as well as at the time of the burial.

The tomb-chamber had been plundered by robbers who broke in through the roof and removed most objects of value, but the rest of the grave-shaft was undisturbed, and here we had in a most vivid form proof of the custom of human sacrifice, a custom as to which nothing had before been known and whose very existence had not been suspected. In the written records of later date there is no hint of any such rite, and archaeology had hitherto discovered no trace of it.

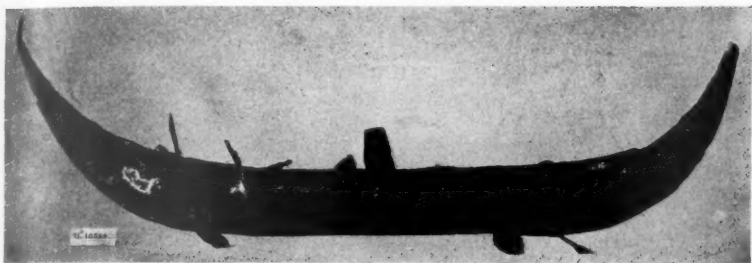
In the bottom of the grave shaft, outside the tomb-chamber, there lay fifty-nine bodies. At the foot of the dromos slope were six soldiers wearing large copper helmets and carrying two spears apiece; below them in the pit proper were two wagons, each drawn by three oxen lying as they had been struck down after backing the wagons down the slope; the drivers lay across or beside the wagons and the grooms at the beasts' heads. Against the end wall of the tomb chamber lay nine bodies of women wearing elaborate head-dresses of gold—each had a pair of very large lunate gold ear-rings, a wreath of lapis and carnelian beads with gold leaf pendants which had supported the veil, a small silver pin in the hair, at the back of the head a silver ornament like a Spanish comb with three or more points ending in flower rosettes with inlaid petals of gold, shell, red stone, or lapis, a necklace of beads, lapis or lapis and gold, and a large silver pin with lapis head worn as a fastening of the cloak on the right shoulder, while on the head of each was a quantity of narrow gold ribbon which went round and across the crown of the head and made a sort of hair-net. Against the side wall of the chamber, in the passage leading to the door, there were more bodies of women, and opposite them against the wall of the shaft lay menservants or soldiers armed with daggers and wearing across the forehead fillets made of three big beads and silver chains or

cords; the open space between the wagons and the row of women with gold head-dresses was crowded with bodies of men and women. Inside the chamber the depression in the mud floor which had presumably held the royal coffin was found empty, but elsewhere there were traces of at least three bodies, bringing up to more than sixty the number of victims killed in the king's honour.

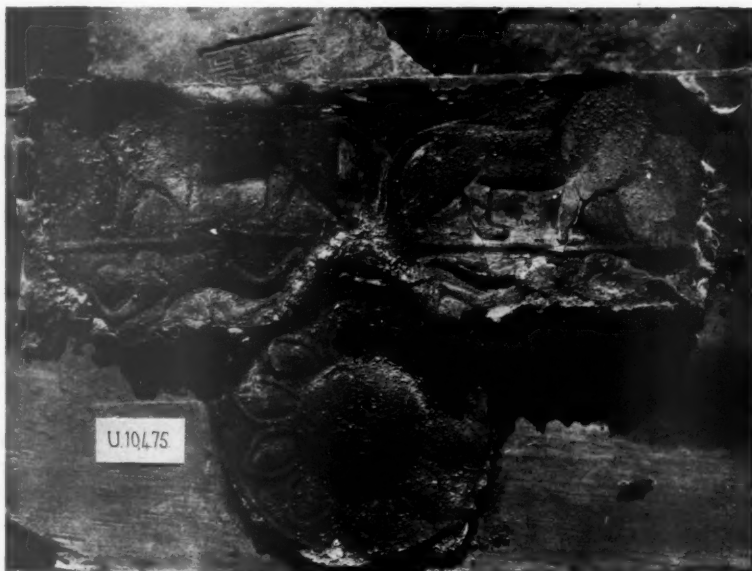
None of these bodies had with them the furniture normal in an individual grave, only what might be called the insignia of their professions. The 'court ladies' might have, besides their jewellery of gold and beads, cockle-shells containing cosmetics, or a little stone bowl generally also showing traces of colour; the driver of one wagon had a dagger with a copper blade and silver hilt enriched with a gold guard and studs of gold and lapis lazuli, and a whetstone of lapis hung on a gold ring, and the second driver had with him a silver bowl; the offerings that there were in the grave were not placed there in their honour, but everything tended to show that the offerings and the human beings alike were dedicated to the principal occupant of the tomb, who alone retained his personality, while these others were important only by reason of their functions.

The Wagons. Of these very little survived. The bodies had been built of wood which had entirely perished, leaving no more than a film of discolouration in the soil which it was difficult to identify and to excavate, and impossible to preserve; they were however, cleared and photographed (pl. LXIII. 1). Each had four solid wooden wheels; in the first wagon the front wheels had a diameter of 0.60 m. and the back wheels of 0.80 m., and the tyres were of leather which had decayed leaving a white band in the soil; the axle-length was 0.70 m., and the axles themselves were 0.14 m. in diameter, and seem to have been fixed to the wheels and to have revolved with them; the body of the car was 0.56 m. wide and was fastened to the axle-box by heavy copper bolts turned over at the ends. The second wagon was larger, all four wheels having a diameter of one metre with an axle-length also of a metre, but the car body was only about 0.50 m. in width. From the front of each wagon projected the pole, and on this, 2.70 m. from the front axle, was fixed a terret or rein-ring (0.17 m. high), in the one case of silver and in the other of copper, surmounted by a 'mascot' in the form of a bull. The reins, which were found lying in order, consisted of large lentoid beads of silver, ten centimetres long, interspersed here and there with smaller lapis beads. The oxen which drew the wagons had silver rings in their nostrils and wore broad collars covered with thin silver plate, ornamented with an eye-pattern in repoussé work. The oxen must have been harnessed one on each side of the pole and the third alongside as a tracer (pl. LXIII. 2).

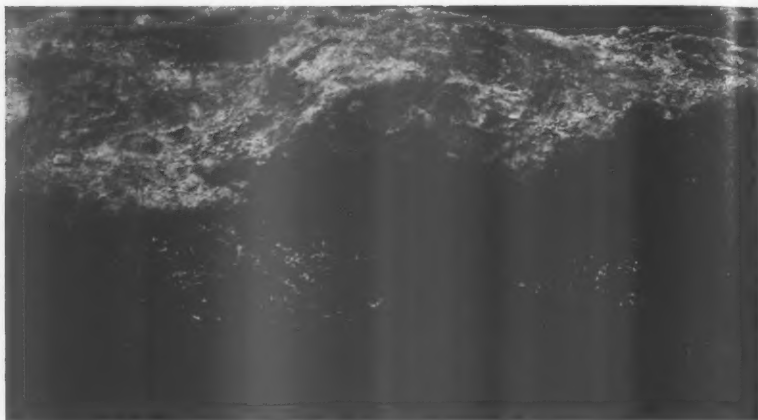
Spears. There were found three sets of spears, four spears in each set. In one case the spear-heads were of gold, 0.145 m. long, and the shafts, about 0.75 m. long, bound with alternate bands of gold and silver, each 0.03 m., wide and leaving as much of the wood showing between the metal: two of the shafts had gold butts furnished with copper forks to take a throwing-cord and the other two were plain. A second set had silver heads 0.345 m. long and shafts bound with gold and silver, giving a total length to the weapon of 1.35 m.; here too,



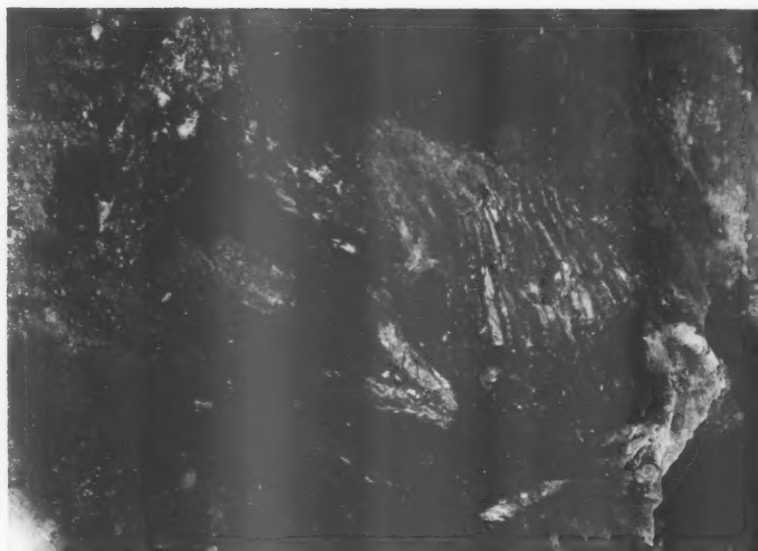
1. Silver model of a boat from the tomb chamber of Pg/789



2. Copper shield decoration (?) from Pg/789



1. The wheels of one of the wagons in Pg/789



2. Skeleton of one of the oxen drawing a wagon in Pg/789. The silver collar and the ring in the muzzle can be seen

two of the four had forks for throwing-cords. The third set had silver heads and the shafts were bound with silver only.

Copper relief (pl. LXII. 2). Close to the second set of spears lay a copper relief 0.43 m. long and with a width of 0.18 m.; below it, and overlapping, is a circular boss in the form of a rosette, above is a rectangular band divided into two halves, in each of which there is a lion facing outwards and beneath his feet the prostrate figure of a man. The relief was originally attached to a wooden object, and its shape suggests that that object was a shield, oblong and slightly convex, of which the boss would form the centre, while the rectangular panel would extend across the width of the shield. The interest of the object lies in the style of the relief design; in every respect the drawings of the two lions might pass for Assyrian work of the late period, the eighth or seventh centuries B.C., and it is extraordinary to find the treatment of that time anticipated by the Sumerian artists of nearly three thousand years earlier. One can only conclude that tradition has played a larger part than there had been reason to suppose, and that Assyrian art even in those features which would have been regarded as characteristically northern is in fact derived from prehistoric Sumer.

Copper Bull's Head. Against the south-west end wall of the chamber there stood, on the top of the women's bodies and leaning against the masonry of the wall, a statue of a bull. The head was in copper and was admirably preserved; the body, of wood, had entirely perished, and only a film of black discoloration in the soil represented it. It measured 0.50 m. from the back of the neck to the back of the tail; the tail stood upright to a height of 0.20 m. above the line of the back; down the front was a row of three engraved shell plaques set apparently between the legs, but so far as could be seen the legs were not distinguished from the body by any higher relief, only below the plaques there was a slight projection which might have been the hooves of the animal or merely a plinth; in any case the treatment of the body must have been very sketchy, and the same arguments might apply to this figure as to the gold-headed bull. The head is now in the Baghdad Museum.

The Gold-headed Bull. Leaning against the north-west side of the pit and standing over the bodies there, was a figure of a bull having a wooden body and a head of gold and lapis lazuli, with a set of four engraved shell plaques reaching down the front of the chest to the ground. The gold was a thin sheet hammered up over a wooden core coated with bitumen; the wood had perished and the metal had been crushed by the weight of the soil until its form was scarcely recognizable; the locks of hair between the horns, carved separately in lapis lazuli, had sunk into the crown and only some of them could be extracted in their original order, but the beard, also a mosaic of carved lapis pieces, retained its shape, thanks to the fact that the wooden board on which it had been mounted was backed with a plate of silver, which though bent and cracked, remained entire; the lapis tips of the horns, the inlaid eyes and the shell plaques were likewise in position though twisted and awry. The impression left by the body in the earth showed no signs of modelling; the line of the back seemed to give with a fair degree of naturalism the curve of shoulder and rump, but such curves might be due to the accidents of decay. The length of the body

moreover, and its height are altogether out of proportion to the head; and the tail, abnormally thick, stuck up nearly vertically and the groove left by it could be traced to a height of 1.40 m. An attempt therefore to reconstruct the body on the basis of the recorded measurements resulted in a mere travesty of a bull, and I am much more inclined to believe that we have here the remains of a harp. This idea originally came to me when I observed the position of the tail, which seemed at variance with Sumerian conventions, but was discarded because there were found no metal keys such as signalized the harp in the Queen's grave (*v. pl. LXVI*) and no inlay round the edges of the sounding-box. But the gold and lapis head could quite well be the decoration of a harp not like that from the queen's grave, but resembling those figured on the mosaic standard and on one of the shell plaques from the head itself, a harp with two uprights, of which the 'tail' would be one and the other has disappeared leaving no trace observed by us, supporting a horizontal beam to which the strings were attached by tying, not by keys.

The bull's head (*pl. LXIV. 1*) was restored very simply by re-annealing the metal and pressing it out by hand into its original form; plaster was substituted for the wood, and of the hair enough was found in its original order to admit of the remainder being replaced without doubt or difficulty. It is a very fine piece of conventional sculpture. The contrast in style between the head and the engraving of the shell plaques (*pl. LXIV. 2*) which decorated the front of the body (or of the sounding-box?) is remarkable; here scenes of an entirely novel character are treated with an originality, a balance, a sureness of line, and a sense of humour unequalled in any other monument discovered at Ur. The top scene is comparatively normal, a Gilgamesh figure fighting with two human-headed bulls, but rendered with a vigour and a freshness which only emphasize the symmetry of the composition; the lower scenes with their pictures of animals performing, apparently, religious rites, are wholly peculiar. In one a dog (?) wearing a belt with a dagger, carries a table on which are joints of meat, and is followed by a lion bearing a lamp and a large vase in a wickerwork frame. In the next a donkey sits upright on its tail and plays a big harp decorated with a bull's head, while opposite to him a jackal (?) shakes with one hand a sistrum (the instrument typical of Egypt and appearing here before the rise of the Egyptian civilization), and with the other plays some other instrument resting on his knee, and a bear dances to the tune. In the last scene a monster with a human head and a scorpion's body walks delicately, followed by a gazelle on its hind legs carrying two tumblers which he has seemingly filled from a tall vase standing on the ground behind him. Analogies to these figures might be found on the prehistoric slate palettes of Egypt and in late Egyptian papyri, in medieval missals and Gothic sculptures; they might be illustrations to fairy-tales or parodies of religious motives; but in this preliminary report it would be impossible to discuss fully their character and bearing, and they are illustrated rather to promote discussion than to settle it.

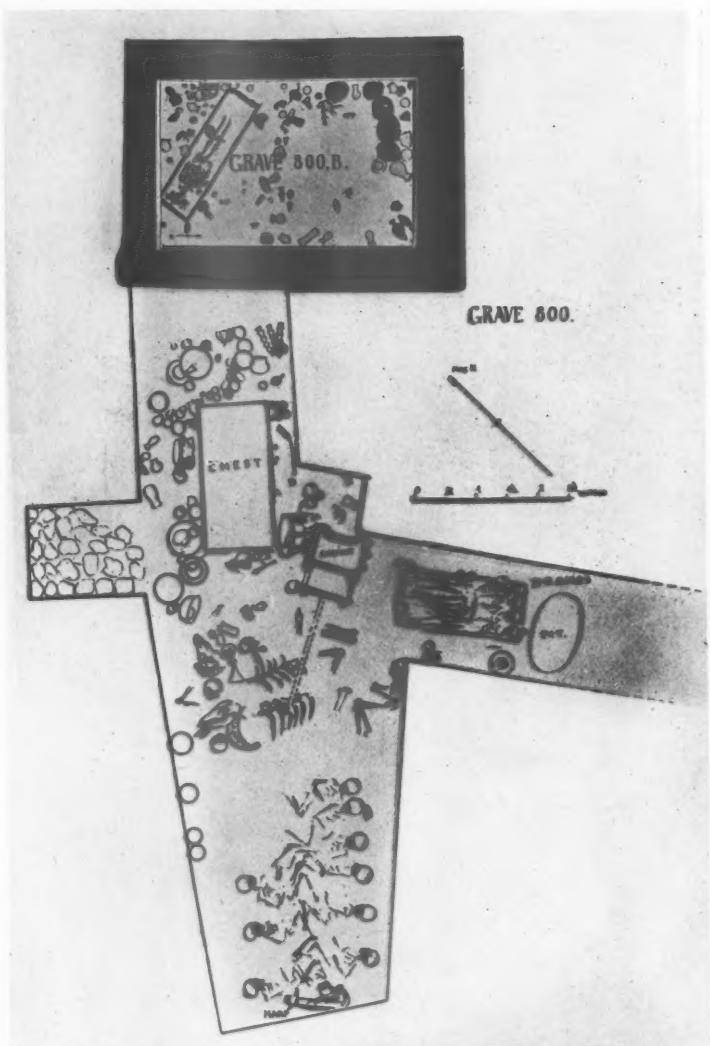
The Royal Gaming-board. Inside the tomb-chamber the robbers had overlooked two objects of first-class importance, one of which was a complete gaming-board made with shell plaques engraved with animal



1. Gold bull's head from the King's grave



2. Shell plaque from the front of the body of the gold-headed bull



Ground plan of the Queen's grave showing the position of the objects found

scenes and conventional patterns set in lapis lazuli and mounted on a board backed with silver. When the cleaning of the board was undertaken it was discovered that there was a hollow at the back, between the inlay and the silver plate, a shallow box or drawer in which were the gaming-pieces, seven black squares, each inlaid with five white dots, and seven white shell squares engraved with animal scenes; with these was a marker in mother-of-pearl. Some of the shell plaques had suffered severely from decay, and the designs were obliterated, but others were in good condition, and in any case the completeness of the board gives it an interest quite independent of its really great artistic value. The gaming-board is the property of the Baghdad Museum.

The Silver Boat. Inside the chamber against the south-west wall, and on the edge of the depression cut in the floor for the royal coffin, there were two models of boats, one of copper, hopelessly decayed and only just recognizable, the second of silver, wonderfully well preserved. The type of craft is precisely that used by the modern Marsh Arabs of southern Iraq, long and narrow in the beam with high stern and prow, five benches for the rowers, and an arch amidships to support a matting or canvas awning. Leaning out over the thwarts were the slender leaf-bladed oars, also strangely modern in form. The model is 0.64 m. long, and though when found it was solidly embedded in stones fallen from the chamber wall it is absolutely intact, and only the awning-arch has been crushed in. Taken by the Baghdad Museum as an object illustrating better than any other the continuity of life in Mesopotamia, it must rank with the golden helmet of Mes-kalam-dug as one of the greatest treasures found in the course of the season (pl. LXII. 1).

PG/800. THE QUEEN'S GRAVE (pl. LXV)

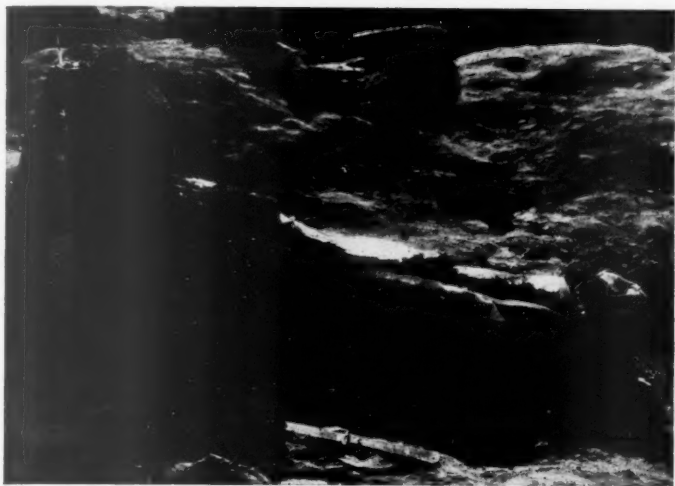
In this grave the pit was of an irregular form, long and narrow and not truly rectangular, with a sloped dromos leading in from the south-east, and on the north-west side a recess or alcove paved with rough blocks of limestone. The floor of the pit lay at a depth of seven metres below the modern surface, but the tomb chamber, constructed in a recess at the end of the shaft, lay 8.70 m. from the surface, touching the tomb chamber of PG/789 and actually 0.40 m. lower than it, so that its roof was on the level of the floor of the main shaft. A lapis lazuli cylinder seal which fastened the queen's cloak on her right shoulder identified her as Queen Shub-ad, a character hitherto unknown. In the lower part of the filling of the shaft, immediately above the wooden chest called by us 'the wardrobe', there was found, flung into the grave with other offerings, a lapis cylinder seal bearing the name A-bar(a)-gi. One of the grooms attending on the asses of the chariot wore a shell seal with the name (lugal)-Šag-pad-da. It is conceivable that the latter of these names is that of the queen's husband, the former that of her son. What seemed quite certain was this, that the queen's grave was deliberately made as close to the 'king's grave', PG/789, as was possible; the old grave-shaft was opened up until the crown of the roof of the tomb-chamber was exposed, and then a pit was sunk alongside that chamber for the construction of the queen's tomb which actually abutted on the wall of the older building

Naturally orders must have been given for the king's grave to be respected, and the workmen did not venture to dig down deeper into the shaft so as to reach the offerings and the ornaments of the victims buried there, which we found intact. But the exposed roof of the king's chamber proved too great a temptation, and they broke through the brickwork of the vault and plundered the riches of the interior. To conceal this sacrilege matting was spread over the hole, and on this was set the queen's great wooden chest, surrounded by offerings, which effectually masked the breach and prevented the detection of the theft. From the position thus deliberately chosen for the grave one might reasonably assume that the queen was the wife of the king buried in PG/789, and the importance of this is that it establishes a close time relation between the two burials.

Both the grave-pit and the tomb-chamber of Queen Shub-ad were untouched by robbers.

As in the case of the king, so the queen was honoured by human sacrifice on a large scale. At the bottom of the sloped approach, just below a circular pit sunk in its floor, and recalling the pit in the dromos of PG/789, there was a shallow depression containing the bodies of five men; these had no weapons, but doubtless they performed the same function of guards as did the soldiers of the king. Next in the pit stood a sledge chariot drawn by two asses whose grooms lay at the animals' heads; beyond these was a double row of women wearing the regulation head-dress of gold ribbon, wreath of lapis and carnelian beads with gold leaf pendants, heavy lunate ear-rings, and silver pins with lapis heads. At the far end of the row was a harp, and by it was crouched the body of the harpist, a woman, with her arms stretched out across the sounding-board of the instrument, as if she had been playing it up to the moment of her death. At the other end of the grave, next to the chariot, was the big wooden box already mentioned; the wood had perished completely and a band of mosaic ornament, shell figures against a background of lapis lazuli, which had decorated its front side, had fallen out in fragments, and most of the shell was decayed beyond all recognition. Against the end of this box lay the body of a man wearing the usual fillet of three beads, lapis, gold and lapis, strung between lengths of gold chain; he may have been the 'Keeper of the Queen's Wardrobe'. Actually there was found inside the box no trace of anything at all, and since it is not likely that it was placed empty in the grave, its contents must have been such as would in their decay leave no trace of themselves. There are few things of which this would be true, and of them the most probable are fabrics in wool or linen, whose presence in the graves, even where it is most certain, can very seldom be distinguished; the theory of a wardrobe is therefore that best supported by the evidence.

Two more bodies lay against the side and the far end of the chest, and inside the tomb-chamber two others were crouched at the head and at the foot of the bier on which lay the corpse of the queen. From the presence of these victims in the queen's grave two conclusions can be drawn, first, that in this early Sumerian society women enjoyed, if not equality with men, at least a very great amount of respect in that the queen was not killed to celebrate the funeral of her husband, but



1. The harp of Queen Shub-ad, as found



2. The harp of Queen Shub-ad (restored)



1. The body of the sledge-chariot of Queen Shub-ad
(restored)



2. The gold animals' heads on the sledge-chariot

had her own court whose members, male and female, were sacrificed in her honour; and secondly, that the rite of human sacrifice was paid to royalty regardless of sex, to the kingly rank rather than to the person, and probably therefore to the rank as conferring a measure of divinity.

The tomb chamber (PG/800 B) was very much like that of PG/789, built with walls of limestone rubble and a vault of burnt brick rounded at the corners to an apsidal form; the only difference was that it had no door (this was an almost necessary result of its being dug down deeper than the main shaft) and must have been roofed after the body and the offerings had been set in place. Here it was easy to see that many of the offerings had been arranged on wooden shelves which ran across the ends of the chamber, for the shelves had given way after the fall of the brick roof, and vessels of clay or metal were lying well above floor level on the top of bricks and earth. The queen herself lay on a wooden bier placed askew across the chamber; no trace of wood was remarked above the bones such as would have denoted a closed coffin, and it seems probable that there was in this case a departure from the general rule whereby the dead were enclosed either in a regular coffin or in a roll of matting; perhaps the chamber itself counted as a coffin. The number of objects placed in the chamber was astonishing; many had perished, but a hundred and seventy remained to be catalogued, the majority of them being vessels of gold, silver, or copper, gold ornaments and sets of beads in gold, lapis-lazuli, and carnelian. In the outer shaft there were found over a hundred objects deserving catalogue numbers, besides all those which accompanied the bodies of the victims sacrificed at the funeral—gold head-dresses, necklaces, etc. Only the more important of these can be described here.

The Queen's Regalia. On her head Shub-ad wore what was really a richer and more elaborate version of the ordinary head-dress of a lady of the court. A quantity of broad gold ribbon was wound round the head, the strands crossing each other on the forehead and falling in festoons on either side. These retained their position and shape in the earth, and it was possible by fixing them together to lift the whole without disturbing the arrangements of the strands, and so the measurements and outline of the hair were obtained. It was clear that the queen had a coiffure dressed over pads which greatly exaggerated the size of the head, the width across being no less than 0.38 m. On the top of and mixed up with the ribbons lay the component parts of four wreaths; immediately over the forehead was a row of gold rings on a double string of lapis and carnelian beads, then two wreaths of large gold leaf pendants on similar bead strings; on one of the wreaths the gold leaves were tipped with carnelian balls. Higher up came a wreath composed of lapis and gold beads with long gold leaves like willow leaves arranged in sets of three, each bead tipped with carnelian, and gold flowers with inlaid petals of lapis and white paste. The order of all these wreaths could be noted accurately. A set of large and rather coarse lapis beads was also found by the head but its position was uncertain. At the back of the head, was a large 'Spanish comb' of gold, its seven points ending in rosettes with gold and lapis centres; it was stuck upright in the hair and the points were bent so

that the rosettes drooped forwards over the top of the head. In the ears were enormous lunate ear-rings of gold. Four spiral rings of gold seem to have been worn in the hair, but the exact arrangement could not be made out. Round the neck was a necklace of small gold and lapis beads with a pendant in the form of a wheel-rosette of gold open-work set with carnelian.

On pl. LXXI. 2 this head-dress is illustrated as it was worn. The queen's skull being irremediably damaged, a cast was made from a slightly later but well-preserved female skull found at al-'Ubaid, and over this Mrs. Woolley modelled the features, following throughout the bony structure of the head. A wig was made to the measurements of the gold ribbon and dressed after the model of the (later) terracottas, and the parts of the head-dress whose position was undoubted were placed on it; the ribbons fell into place as soon as the wires holding the strands were cut, and required no further arrangement. The result is a faithful reproduction of the racial type and of the fashions of the period.

The Cloak. The upper part of the queen's body was entirely covered with a mass of beads of gold, banded agate, carnelian, lapis, and a few silver (the last completely decayed). In spite of the breaking of the strings they lay in tolerably good order, and the arrangement could be noted and reproduced. Along the front of the bottom of the cloak was a fringe of ten rows of bugle beads sewn on to some material in groups of gold, lapis, and carnelian irregularly spaced; from this hung a row of large gold rings. The fringe did not continue round the back of the garment but seems to have been replaced by small lapis beads. The collar was of open work, lapis and gold triangles separated by small ball beads, and below this there was apparently (but not certainly) a band of small bugles set horizontally and sewn on to the material. The body of the cloak was composed of vertical strings of mixed beads arbitrarily arranged, the order of which could for the most part be ascertained. It is possible that here there was no background of stuff but the beadwork was open, letting the under garment show through; but where the cloak was open, along the right arm, there must have been a solid edging which was covered with rows of small carnelian beads stitched to the stuff. Here on the right arm the cloak was fastened by three long gold pins with lapis heads; attached to each pin by a string passing through a hole in the stem was a big lapis cylinder seal, one of which bore the name 'Shub-ad'.

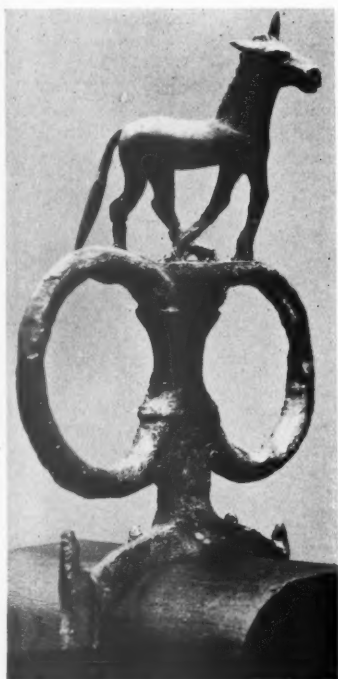
Close to the right elbow lay four amulets, three in the form of fish, two in gold, and one in lapis, and another in the form of two gazelles seated back to back. How they were worn is not clear (pl. LXIX. 1).

By each shoulder lay an amulet of lapis, one shaped as a calf, seated with its head turned back against its flank (pl. LXIX. 1), one as a bearded bull; each formed the terminal to a short string of large agate and lapis beads. It looked as if they had been hung from the hair, but this was not at all certain.

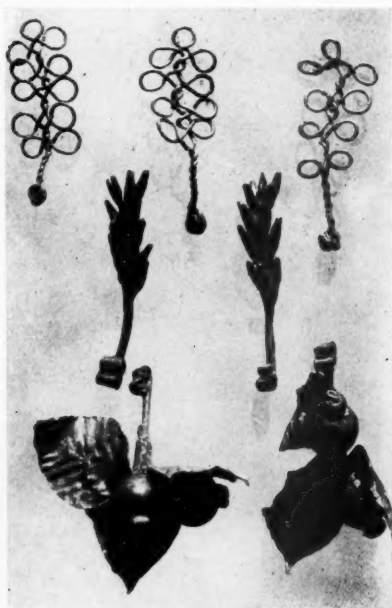
Near the waist lay a large pin with broad triangular head, of which the top rim was rolled over to make a tube: this is a type already found in several graves in the cemetery, and it has also been noted as occurring in the Caucasus.



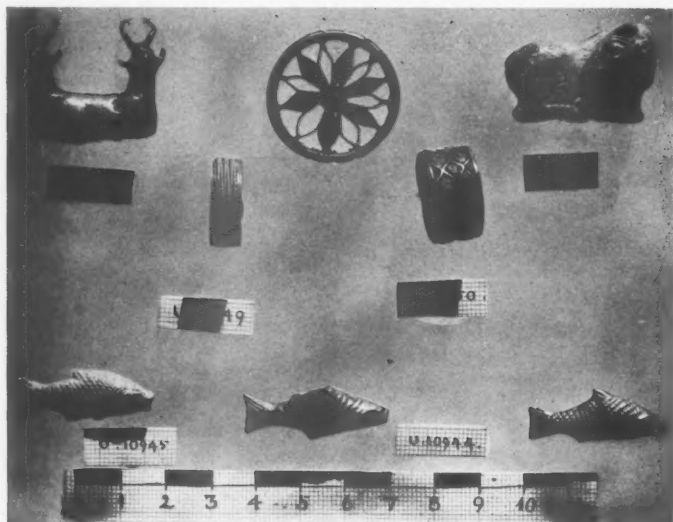
1. Lid of Queen Shub-ad's toilet box : shell and lapis-lazuli inlay



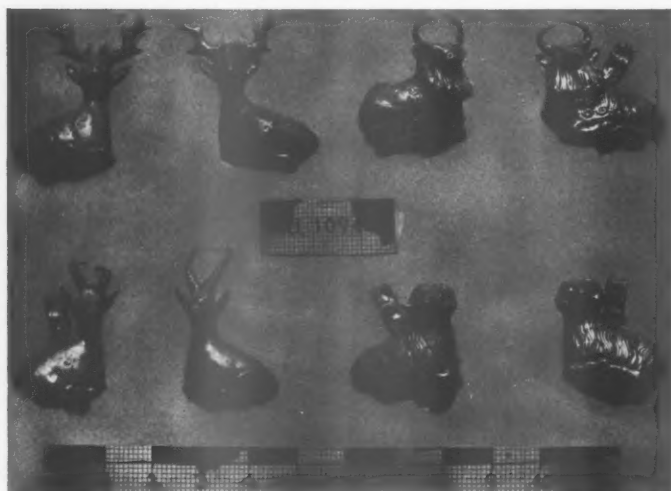
2. Rein-ring and 'mascot' from Queen Shub-ad's chariot pole



3. Gold ornaments from the diadem of Queen Shub-ad



1. Gold and lapis-lazuli amulets, gold and cloisonné rings, and gold and carnelian pendant of Queen Shub-ad



2. Gold animal figures from the diadem of Queen Shub-ad

Just above the knee the queen wore 'garters' of flat tubular beads—lapis, carnelian, and gold. On each finger she wore a gold ring, most of them of the usual type, made out of a length of gold wire, square in section, of which the central part has been twisted on itself; this is coiled into a spiral in such a way that the plain ends form a border to the ring, while the twisted central length gives the effect of three strands of cable-pattern. Of the other rings one had the same cable-pattern, but the border was enriched by a minute band of lapis strip inlay; two were of cloisonné work of lapis in gold—the first real instance of this technique that we have yet discovered (pl. LXIX. 1).

The Second Diadem. Folded together by the side of the queen, on her bier, but perhaps fallen from a shelf, was a very striking piece of goldsmith's work. The basis was a long strip of what seemed to have been white leather—the light powder to which the material was reduced had the texture of leather and was dead white in colour; on to this seem to have been sewn thousands of minute lapis beads, and against the solid blue background thus produced were attached by silver wires a number of gold ornaments. The order in which the ornaments came out of the ground was noted, and the whole has been reconstructed accordingly. It makes a band not too long to have been worn over a wig padded out as was the queen's and too delicate to have been worn elsewhere than round the head; the term 'diadem' is therefore admissible.

Amongst the gold ornaments are four pairs of seated animals, two bearded bulls, two rams, two gazelles, and two antlered stags; these were spaced out with golden ears of corn, bunches of pomegranates, three golden fruit with carnelian flower-tips set amongst golden leaves, all rendered with the utmost naturalism, and branches of shrubs with gnarled stems of silver plated with gold, and fruit or pods of gold, lapis, and carnelian: these stood up well above the blue field. Pendent from the blue and softening the hardness of its line were palmettes of twisted gold wire. The workmanship of all these gold objects is extremely fine and the general effect of the diadem very rich (pls. LXVIII. 3, LXIX. 2).

Gold vessels. These were found both inside the chamber and outside it against the end of the 'wardrobe'; they are figured on pls. LVIII, LXX, and a minimum of description is required.

(1) A tumbler with fluted sides and engraved chevron and herring-bone pattern round the base and rim; ht. 0.15 m., diam. 0.095 m. U. 10453 (pl. LXX. 3).

(2) A feeding-bowl (?) similarly decorated with long curved spout rising slightly above the level of the rim; ht. 0.123 m., cup 0.12 x 0.65 m. U. 10454 (pl. LXX. 3).

(3) A fluted oval bowl similarly engraved and with a rosette-pattern engraved on the base; in the middle of each side near the rim a double tubular lug placed vertically to take a wire handle. Ht. 0.05 m., l. 0.14 m., width 0.06 m. U. 10850 (pl. LVIII. 2 b).

(4) A plain oval bowl with suspension-lugs and handle of twisted wire; ht. 0.07 m., l. 0.197 m., width 0.11 m. U. 10851 (pl. LXX. 2).

(5) A plain oval bowl, ht. 0.05 m., l. 0.145 m., width 0.10 m. (pl. LXX. 2).

(6) A lamp-filler (?) in the form of a straight-sided cup with long trough spout and carinated rim. Ht. 0.06 m., diam. 0.12 m. U. 10451 (pl. LXX. 1).

(7) A goblet on short stem and hollow foot. Ht. 0.088 m., diam. 0.105 m.; a remarkable form unlike anything else of the period yet found, and recalling rather classical types. U. 10452 (pl. LVIII. 1 b).

(8) A strainer roughly made from soft sheet gold, with broad rim and flat handle, diam. 0.12 m. U. 10931 (pl. LXX. 1).

(9) A gold saw 0.35 m. long, and a set of five assorted gold chisels.

(10) A pair of cockle-shells imitated in gold with the shell markings summarily engraved, containing green paint. A number of real cockle-shells containing paint, most of them abnormally large, was found in the chamber, and also a pair of silver shells (pl. LVIII. 1 a). L. 0.08 m., U. 10932.

The silver vessels found were very numerous, and though many were in bad condition the variety of types was interesting. Deserving special notice is an oval bowl, on to the outer face of which electrum ribbon had been hammered in a pattern imitative of basket-work; the handle of the bowl was of twisted silver wire. In four cases there were found with bowls the tubes through which the contents were sucked up, as is shown on a number of early cylinder seals; one of the tubes was of thin gold plated over a reed, one is of copper gilt, two consist of very thin copper tubes on which are strung in the one case sections of lapis tubing, in the other alternate lengths of lapis and of gold. These are the first instances of real drinking-tubes that we possess, though their use was already known.

The stone vessels were also very numerous. The commonest material is white calcite, and amongst the vases in this material are some beautiful examples of colour and graining. Steatite was used for large bowls, and in the same stone we have a circular box with a lid and two straight-sided pots with scale-pattern and chevron ornament carved in relief. Unique are a vase in black and white marble, an oval bowl in translucent green calcite, a spouted cup in lapis lazuli, and an oval bowl, with very thin walls, in black obsidian, a veritable masterpiece of technique (pl. LVII. 1).

Silver cow's head. This is one of the finest pieces of modelling that the cemetery has produced. It was found inside the chamber, in the middle of a heap of metal and stone vases, and no trace of a body in wood or any other material could be discerned. Three shell plaques (two of them broken) were also found in the chamber and are probably to be connected with the head.

Silver lionesses' heads. Two of these, a pair, were found against a corner of the 'wardrobe' in the outer grave, connected by visible traces of wood; they were perhaps attached to the arms of a chair or front of a stool. Though the metal is completely oxidized the form of the heads is well preserved, and they are unusually good examples of the sculptor's art at this period. Greatest measurements, 0.15 x 0.12 m.

The sledge chariot. The whole of the woodwork of the chariot had decayed, and even the discolouration left by it in the earth was difficult to follow, but the incrustation in shell, lapis, and red limestone, held together for the most part, and had only shifted its position here and



1. Gold lamp-filler (?) and strainer from the grave of Queen Shub-ad



2. Gold vessels from the grave of Queen Shub-ad



3. Gold tumbler and feeding bowl (?) from the grave of Queen Shub-ad



1. Queen Shub-ad's head-dress as found



2. The head-dress of Queen Shub-ad

there with the collapse of the rotting wood; and as, fortunately, the ornament was invariably employed to emphasise the outlines of the framework it was possible to make sketches and to take measurements which allowed of a faithful reconstruction of the woodwork. In the model made at the British Museum the only really doubtful point is the height from the bottom of the decorated side panel to the base of the car, and even this can be fairly estimated from the pictures of chariots on the Standard (pl. LXVII).

There were no wheels. In front of the car and high up in the soil there was a horizontal strip of wood decorated with incrustation and two small heads of lionesses in silver; this must have been the cross-piece between the ends of the runners. Of the runners themselves there was no sign other than this, but for their restoration we have the pictograph on the early stone tablet from Kish, which in its general proportions closely resembles our chariot.

The body of the car consists of two sides and a front; a shallow incurved step enables the rider to mount easily. The upper part is panelled, and in our restoration the panels are filled in with wood, but it is possible that there may have been here leather such as, on the chariots in the Standard mosaic, seems to be indicated by red colour. The top bar on each side is ornamented with a band of mosaic and small circles filled with lapis and shell, and between these are little heads of oxen and lions in gold. On the broad lower frame of the panel are three larger lions' heads of gold, wrought in the round, with manes of shell and lapis lazuli¹; two large silver lionesses' heads decorate the front of the car, being attached to the ends of the stout transverse bar to which the pole was fixed.

The donkey mascot. On the pole was a rein-ring of silver, surmounted by a 'mascot' of electrum in the form of a donkey. This is artistically one of the best finds of the season; the naturalism of the design is astonishing, and the boldness of execution masterly. Though it stands only 0.05 m. high it possesses all the qualities of sculpture on the grand scale (pl. LXVIII. 2).

The harp. This is another case where restoration of an object of which much of the actual fabric had perished was made possible by the presence of inlay along the salient lines of the design (pl. LXVI. 1).

The first thing to be discovered was the gold cap from the top of the beam, and thereafter there turned up isolated copper nails with gilt heads. A close examination of the soil revealed the existence of a hole running down vertically into the ground, and the stems of more nails could be seen projecting into the hole from its sides. Accordingly a length of copper wire was pushed down the hole and plaster poured round it; this gave us a cast of what proved to be the lower part of the beam of the harp with the lower keys (the nails) retained in their original places, and the gold collar and part of the bitumen casing of the under curve held together and preserved. Of the sounding-box the inlay round the edge kept its shape and could be photographed, drawn, and measured, and most of it could, by waxing, be removed in strips without disturbing the order of the tesserae; the reconstruction

¹ The manes have been re-affixed as found, but they have been much crushed and probably were once more rounded and projected further from the chariot-bar.

of this, the essential part of the instrument, was therefore simple. Below the sounding-box the ground was covered with fragments of thin silver plate, reduced to purplish-grey powder, and with small silver nails; it was clear that the base of the harp had been cased in silver, though the actual dimensions of that base were lost. At the end of the sounding-box and still attached to the mosaic of its border was a calf's head in gold with hair, beard, and eyes inlaid with lapis.

The restoration of the harp illustrated on pl. LXVI. 2 is not nearly so hazardous as the sight of its remains in the earth, or even the description of the remains given above might incline one to suppose; there is in fact very little about it that can be called conjectural, and though so much of the material is new the instrument as a whole is that which was used in the fourth millennium B.C. It is interesting that it should be of a different type from that figured on the mosaic standard and on the shell plaque belonging to the golden bull's head from the king's grave.

It has only been possible to describe here a small proportion of the objects found in the royal graves, and even so the description is but a summary one; yet enough has been said to give, with the illustrations, an idea of the extraordinary richness of the tombs and of the remarkable quality of the things themselves. Almost the first point that strikes an observer is that we have here the products of a civilization already old; there is nothing primitive either in the design or in the execution of the vessels and works of art, conventions are well established and technique assured by long experience. Even if the dates assigned to individual graves be called in dispute (and the margin of error can scarcely be more than a hundred years), yet the antiquity of the culture which they illustrate cannot be questioned, and the conclusions based on it are not seriously affected.

If one adopts as I have done a late date for the first dynasty of Ur, in round figures 3100 B.C., then, since the chronologies of Mesopotamia and of Egypt are interdependent, the late dating must be adopted for Egypt also and the first dynasty must be placed at about 3300 B.C. at the earliest. Consequently, our royal graves are earlier than the unification of the two Nilotic kingdoms by 'Menes', and *a priori* the civilization they represent is much more ancient. The priority of Mesopotamian culture over that of the Nile valley is amply established; the dependence of the latter on Sumer, its reality and its extent, is a problem whose solution is not the least important task awaiting the archaeologist and the historian.

And the second problem is the origin of the Sumerian civilization itself. Nearly every object that we find is manufactured from imported material—gold, silver, copper, lapis lazuli, all come from abroad—and it is inconceivable that the arts should originate in a country in which the raw materials of them do not naturally

exist. However long had been the history of civilization in the lower Euphrates valley, whatever progress had been made there in that period, the beginnings have to be sought elsewhere in a more propitious land. At present we are entitled to say that already in the fourth millennium before Christ the Sumerians had evolved a material civilization of a very high order which was to have, directly or indirectly, a profound influence on the subsequent history of the Near East: whence they themselves brought or borrowed the seeds of that civilization we have yet to learn.

DISCUSSION

Dr. H. R. HALL said the paper described one of the most remarkable discoveries of modern times. When he began the work at Ur nine years ago, such discoveries *à la Schliemann* could not have been foretold, and it was a great pleasure to be the first to congratulate Mr. Woolley on his success. The finds could only be compared with Schliemann's at Mycenae in wealth of gold; and their completeness rivalled the funerary outfit of Tutankhamen. Both in Babylonia and Egypt the greatest discoveries were due to Englishmen. Hecatombs of subjects in royal tombs were a novelty to Babylonian archaeologists, though not entirely to their Egyptian colleagues: in Nubia, Professor Reisner had discovered the burial of an Egyptian noble, Hapzefai by name, of the time of Senumet I (c. 2000 B.C.), surrounded by the slain bodies of his slaves, and there was little doubt that the well-known *ushabti* figures merely replaced human victims. The luxury revealed at Ur was a measure of contemporary civilization. Chronological difficulties were bound to arise, but the Prince's tomb was not later than 3000 B.C., probably before 3200; and indeed Mr. Woolley would put the larger tombs back to about 3500. Comparison with Egyptian culture of that date was inevitable, the latest date now accepted for Menes (a compound of three kings) being about 3200; and it was clear that the Babylonians were then distinctly in advance. New light was being thrown on the history of the Near East, and Egypt could no longer be regarded as the fountain-head of civilization. The fluted cup with false spout might have been a lamp, with a wick in the spout. Sucking up drink through a siphon was a well-known custom in ancient Egypt, illustrated in the eighteenth dynasty, and perhaps derived from Asia. The mosaic animals performing on musical instruments were exactly paralleled by Egyptian caricatures in the 'Satiric' papyri. The twin lions and piece of armour were Assyrian rather than Sumerian in character: this in his opinion was the most interesting and important object of art discovered. One wondered how long a period of development preceded that artistic motive. Still it must be remembered that development in such matters was often swift. With regard to the armour, it should be mentioned that the Egyptians did not use metal helmets as the Minoans did, and this custom might have spread to Greece from Babylonia. Crete owed much to Egypt, but her similar debt to Sumer (he preferred the proper word 'Sumer' to the latinized 'Sumeria' for which there was no authority) had yet to be estimated.

Sir FREDERIC KENYON said the historical and scientific importance of Ur was obvious, and last season should be regarded as the climax of a long series, which had involved much labour and expense, so that the present good fortune had been well earned. During these years Mr. Woolley had cleared a selected area of the town of Ur, restored the Ziggurat and carefully worked out the surrounding buildings, not to mention the incidental work at al-'Ubaid, where the friezes and copper sculptures were discovered. The completion of the temenos reflected great credit on Mr. Woolley and his assistants, and the restoration of the fragments was an example to all archaeologists, of the same order as Mr. Carter's achievements in Egypt. The objects themselves would be exhibited for a short time in June at the British Museum, and it behoved all those who were interested to take advantage of that unique opportunity of seeing the undivided collection, as much of it was destined for Baghdad and Philadelphia.

The PRESIDENT formally expressed the thanks and congratulations of the Society to Mr. Woolley and his helpers. The treatment of the finds was a triumph of science, dexterity, and patience, and even insignificant details of daily life at Ur had been revealed in consequence. The whole campaign was an imposing tribute to British scholarship.

The Early Iron Age Site at Findon Park, Findon, Sussex

By CYRIL FOX, Ph.D., F.S.A., and GARNET R. WOLSELEY, A.R.W.A.

THE generosity of an anonymous benefactor to the Research Fund of the Society enabled further work to be carried out in 1927 on the Findon Park Iron Age village site, which is situated just above the 500-ft. contour on a broad flat southward-sloping ridge one mile to the north of Cissbury. We wished to obtain information as to the range of date of the occupation, and the culture of the inhabitants, additional to that reported in *Archaeologia*, lxxvi.¹

Our time being limited, the investigation was confined to the area of ploughed land in which were situated the two pits already opened by Mr. Wolseley; within a space measuring 30 yds. by 25 yds. nine additional pits were located, and eight of these thoroughly examined. It may be noted that there are ample signs of occupation at a lower level on the south-east slope of the ridge; this area was under crops and not available for excavation.

A plan of the pits (nine found this year and two in 1925) is shown in fig. 1; their wide variation in form and size and irregular distribution are interesting features. The position of the pits in relation to lynchets—undoubtedly contemporary—bounding the characteristic square fields of the settlement, and to Dead Man's Clump (a well-known landmark) is shown in fig. 2. In fig. 3 the site of the settlement is brought into geographical relation with that at Park Brow, with a third site not yet excavated at No Man's Land, and with the important earthworks of the district. This map illustrates the point made by Mr. Wolseley (*Park Brow*, p. 12) that the Celtic peasantry chose for their habitations southward-facing spurs of the Downland.

The pits.—These were sunk in solid chalk, the overlying soil being about 8 in. deep. Seven pits (C, D, E, F, H, I, J) were virgin; one (G) had been partially opened at an unknown but probably recent date (see table, p. 460). All had smooth floors, free from any adherent charcoal, earth, or fragments of bone; this showed that they had been kept scrupulously clean during use. The walls presented a similar smooth appearance near the floor; higher up they had been disintegrated by natural agencies. The pits varied in size and shape, being both oval and circular in plan,

¹ *Prehistoric and Roman Settlements on Park Brow*, Wolseley, Smith, and Hawley, p. 12. In this paper referred to as the *Park Brow* report.

with sloping or with vertical sides. None was bell-shaped. The depth varies from 2 ft. 6 in. (Pit I) to 4 ft. 4 in. (Pit G),¹ and the greatest diameter of the floors from 2 ft. 6 in. (Pit D) to 6 ft. 4 in. (Pit C). The sections of two pits illustrated in the *Park Brow* report (p. 33, figs. Q, R) indicate their general character and render repetition of such plans unnecessary.

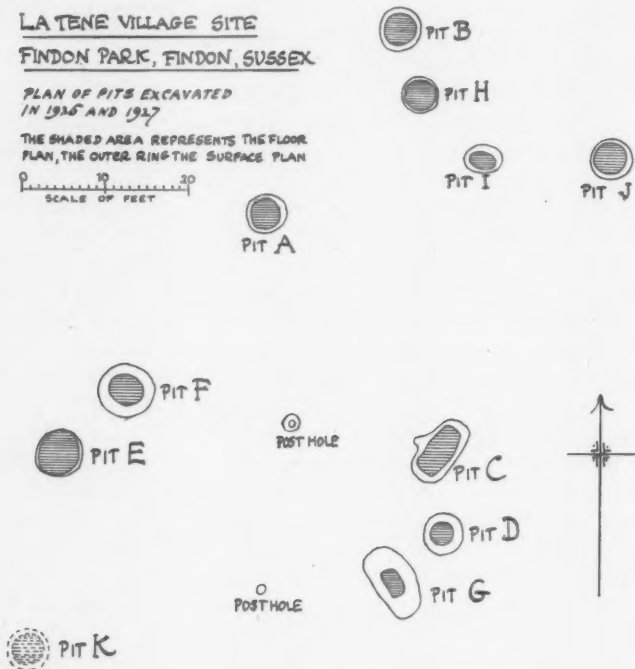


FIG. 1. The Pits. Scale 1 in. to 20 ft.

The filling varied in character. Pure chalk rubble, dirty chalk rubble, masses of pot-boilers, large flints, and earth occurred; some pits contained the whole range here set out, none showed a filling wholly homogeneous. Chalk rubble was commonly met with at the bottom of a pit. The pits were intentionally, and rapidly, filled; there were no hard-trodden layers, or occupation layers indicative of a pause in the process. None had been lived in by man; all were probably grain or store pits. A slight depression or step in one side of the chalk wall showed in one or

¹ Pit A, opened last year by Mr. Wolseley (*Park Brow*, p. 12), was 6 ft. deep.

two cases the mode of entry ; short wooden ladders were doubtless used in the case of others. The filling of one pit (C) showed a feature worthy of remark. On the floor of this pit, in the centre, was an ox skull (*Bos longifrons*) surrounded by a closely set ring of flints. Black soil enveloped the skull, and under it was a rib bone : all around was pure chalk rubble. Part of the lower jaw of an ox

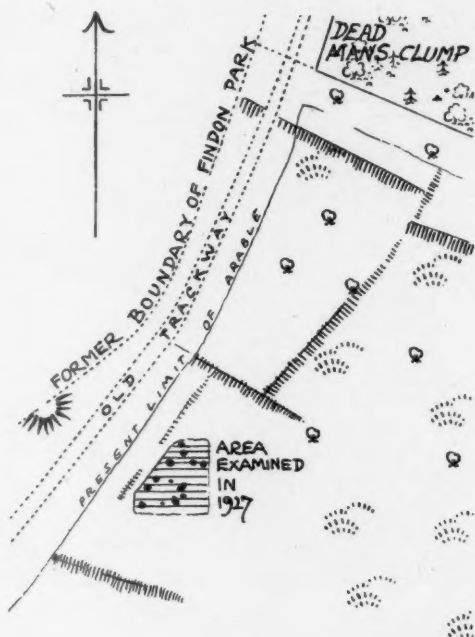


FIG. 2. The Site. Scale 25 in. to 1 mile.

was found at the side of the pit. The placing of the skull in relation to the flints was certainly intentional ; it is paralleled in a Park Brow pit of the same date¹ on the 'Roman-Celtic' site, but its significance is unknown.

Post-holes.—Two post-holes were met with adjacent to the pits. One, 1 ft. 6 in. deep, contained the carbonized stump of the original oak post. Oak was thus the wood used for constructional work by the villagers, as well as for fuel,² and since it is unlikely that they

¹ As shown by the pottery.

² Mr. H. A. Hyde, M.A., Keeper of Botany in the National Museum of Wales, who kindly examined the material, reports that the samples of charcoal submitted to him are exclusively oak.

went as far afield as the Weald for their timber, it is probable that the clay bottoms in the Downland area were thickly covered with oak trees in La Tène times.

The finds.—Animal bones, mostly broken to extract the marrow, some burnt, were found in every pit, together with oak charcoal, potsherds, and minute fragments of daub. All these were on the

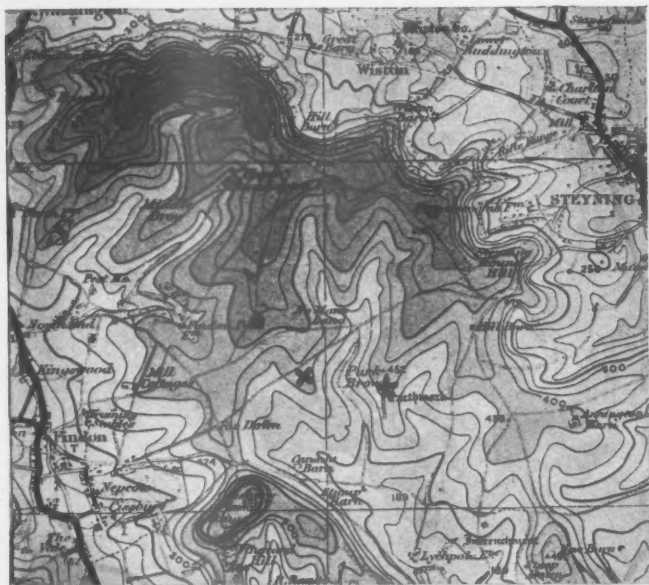


FIG. 3. Distribution of Early Iron Age settlements on the downland N. of Cissbury [● = Findon Park site]. Scale 1 in. to 1 mile.

(Reproduced from the Ordnance Survey Map with the sanction of the Controller of H.M. Stationery Office)

whole scanty and were apparently accidental elements in the material used to fill up the pits. The bones have been examined by Mr. Colin Matheson, M.A., B.Sc., and Mr. L. F. Cowley, M.Sc., whose report is appended. They recognize the following : ox (the Celtic shorthorn), sheep, pig (wild boar ?), deer (roe deer ?), horse.

Additional finds were a broken lancehead of bone (Pit E, fig. 10 a), similar to that figured in the *Park Brow* report (p. 11), an iron knife (fig. 10 b) from the upper levels of Pit C, and the broken tip of an iron bar (apparently too thick to have been part of a currency bar) from Pit H (see fig. 10 c).

The pottery.—Two classes of ware were found in the pits, sharply

differentiated; on the one hand sherds typically Hallstatt, on the other pottery of the La Tène period. The Hallstatt sherds, some of which were as early as the earliest from Park Brow, were consistently small and worn; the later—La Tène—sherds were more numerous, larger, and with sharper edges. It was clear that though the site—or one closely adjacent—had been occupied in the Hallstatt period, the pits all belonged to the La Tène period. To the La Tène pottery then, our attention may now be directed; it enables us to determine approximately how long these pits were in use.

It was recognized during the progress of the excavation that the La Tène potsherds found in any one pit were homogeneous, a fact which implies that each pit was filled in after a short period of use by the villagers themselves. Furthermore, when the entire series from all the pits was studied, it was seen to present a typological sequence, apparently unbroken. This sequence is securely dated at one end, by the discovery in 1925 in Pit A of a late La Tène I brooch (*c.* 300–250 B.C.); at the other end it is datable by inference, the most developed forms of rim and base being typologically earlier than the early La Tène III forms from Park Brow (*Park Brow*, figs. 16, 18–20).

The series thus represents late La Tène I and La Tène II, and probably covers about 200 years (*c.* 300–100 B.C.). As illustrated in the figures it may be tabulated as follows:

- Fig. 4. From Pit A. Late La Tène I. *Circa* 300–250 B.C.
" 5. From Pit E. Late La Tène I.
" 6. From Pit H. Early La Tène II.
" 7. From Pit C. Early La Tène II.
" 8. From Pit. I. La Tène II.
" 9. From Pit F. Late La Tène II.¹ *Circa* 150–100 B.C.

Fig. 4 shows La Tène I pottery found in 1925 in Pit A but not previously published. Fig. 4*a* is a coarse pot containing pounded flint, black at top, reddish-yellow lower down; it is closely comparable with fig. 10, *Park Brow*. Fig. 4*b* is part of the rim and body of a coarse, brown pot, with characteristic finger-nail decoration around shoulder and also on top of rim. Other rims from this pit are shown in fig. 4*c*.

Fig. 5. All the pottery from Pit E, is of La Tène I character: it is coarse flint-studded ware, with no sign of the later soapy quality of the La Tène II types; but on the vase figured there is the La Tène II swag. This is perhaps of more interest than anything else found during the excavation, for it links up

¹ Pits not included in this series (D, G, J, K) had nothing complete enough to justify illustration, but their pottery covered the same two sub-periods.

La Tène I and II—La Tène II decoration on a La Tène I pot, pointing to a continuity of occupation, and confirming the Park Brow sequence. The lance-head from the same pit (fig. 10 *a*) also is

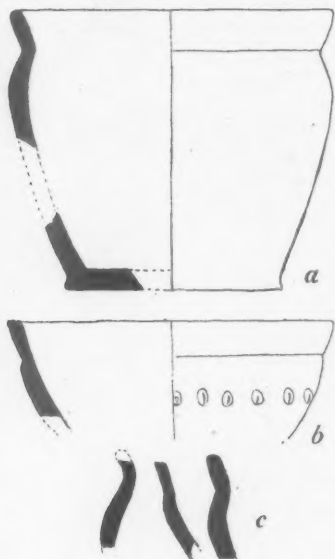


FIG. 4. Pottery from Pit A,
Late La Tène I ($\frac{1}{4}$).



FIG. 5. Pottery from Pit E, attributed to
Late La Tène I ($\frac{1}{4}$).

exactly like that found at Park Brow with pottery of a date later than La Tène I.

Fig. 6. Fig. 6 *a* from Pit H, early La Tène II, should be compared with fig. 5 *a*. The novel form, characteristic of La Tène II (cf. *Park Brow*, figs. 14, 15), shows that a new influence came in about 200 B.C. The swag ornament, however, is, as we have just

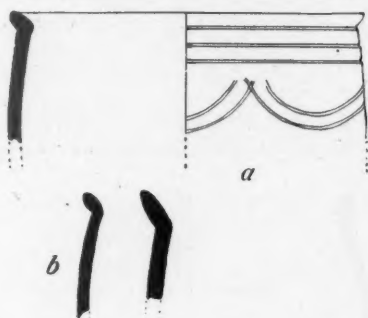


FIG. 6. Pottery from Pit H, attributed to Early La Tène II ($\frac{1}{4}$).

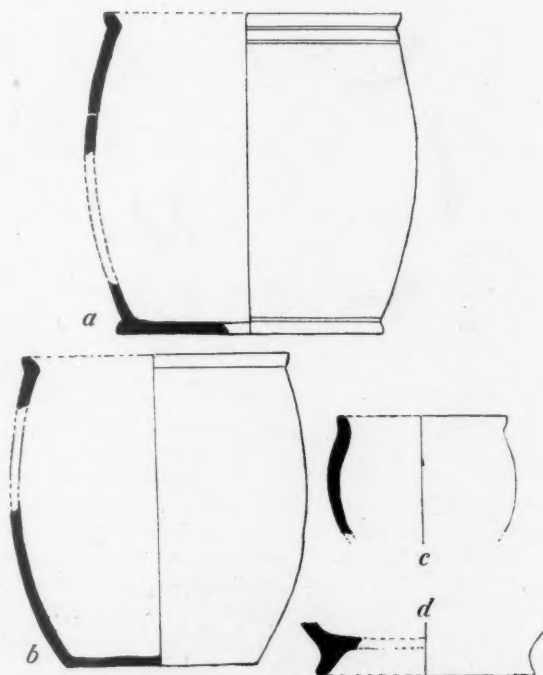


FIG. 7. Pottery from Pit C, attributed to Early La Tène II ($\frac{1}{4}$).

seen, carried over from La Tène I, suggesting that there was little or no disturbance of the life of the village. Fig. 6*b* shows other characteristic rims.

Fig. 7. Figs. 7*a* and 7*b* show characteristic early La Tène II types from Pit C. With the latter fig. 13, *Park Brow*, may be compared. The succession of forms—old ones dying out and new ones coming in—is exemplified in this pit. One specimen harks

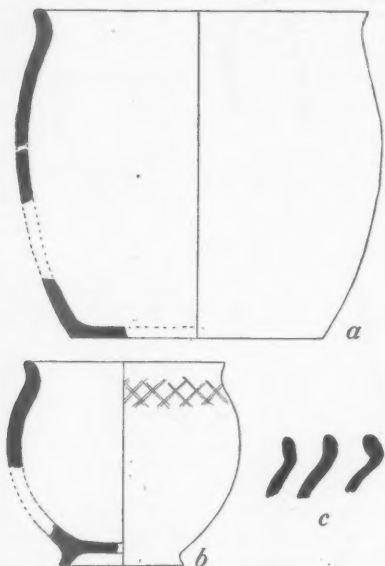


FIG. 8. Pottery from Pit I, attributed to La Tène II ($\frac{1}{4}$).

back to La Tène I (pedestal base, fig. 7*d*, compare fig. 10 A, *Park Brow*), another forward to La Tène III (globular vase, fig. 7*c*, compare fig. 25, *Park Brow*).

Fig. 8. The lips of the pottery vessels from Pit I (La Tène II) foreshadow the roll rim of late La Tène times. Fig. 8*b* is a delicate and beautifully designed buff pot, showing the lattice decoration which goes on into Roman-Celtic times. This is the earliest example of the ornament hitherto met with in the area. The pot is undoubtedly of La Tène II form; its outline may be contrasted with a La Tène I pot from Pit A on this site, figured in the *Park Brow* report (fig. 12).

Fig. 9. The flower-pot vase from Pit F, fig. 9*a*, is soapy or leathery in texture; it resembles fig. 6*a* but the rim is curled, and has degenerated from the crisper form represented in Pit H. Typologically the vessel must be classed as late La Tène II. A very

similar pot to this in the Brighton Museum was found by Pitt-Rivers at Cissbury; fig. 14 of the *Park Brow* report may also be compared with it. Fig. 9 *b* shows another curled rim. Fig. 9 *d* is the under-base of a delicate little leathery pot.

The pottery series, then, justifies the conclusion that the Findon Park village site or, rather, the small part which is all that has

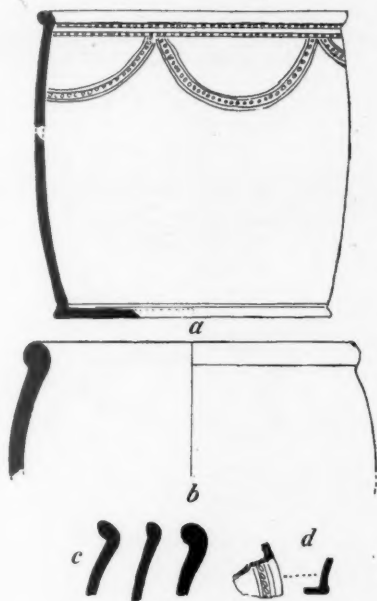


FIG. 9. Pottery from Pit F, attributed to La Tène II ($\frac{1}{4}$).

yet been examined, was occupied in late La Tène I and La Tène II times, *c.* 300–100 B.C. There was no evidence of occupation later than La Tène II, but the presence of worn sherds of Hallstatt pottery shows that Celtic folk were present hereabouts (as at Park Brow) at an earlier date than La Tène I.

The investigation extends our knowledge for this part of Sussex of the ceramic of the La Tène II period, imperfectly recorded at Park Brow, which is weak in forms attributable to this phase. We observe that the La Tène II ware, although presenting new features in the technique of manufacture, and new types, *i.e.* the distinctive flower-pot form—which vanishes in La Tène III hereabouts—nevertheless shows many points of contact with the La Tène I

pottery, while it links up satisfactorily with the La Tène III series of Park Brow.

The iron knife of La Tène II date, and a type series of potsherds, have been placed in the British Museum. Our best thanks are due to the owners of the Wiston estate, and to Mr. Short, the tenant of the field, for permission to excavate.

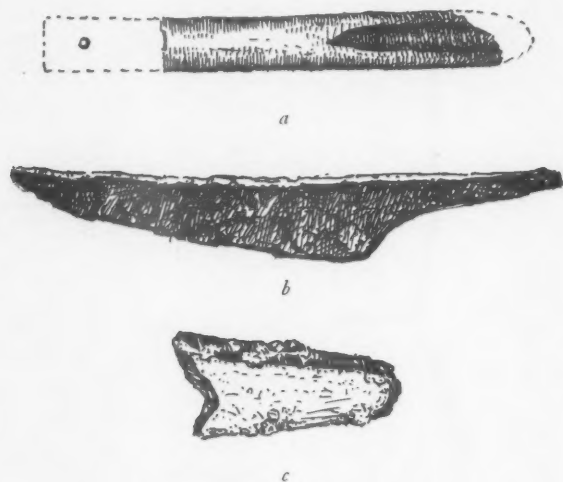


FIG. 10. Bone lancehead (Pit E), iron knife (Pit C), and tip of iron bar (Pit H) (3).

APPENDIX

REPORT ON ANIMAL REMAINS FROM THE FINDON PARK SITE

By COLIN MATHESON, M.A., B.Sc., Keeper of Zoology,
National Museum of Wales, and

LIONEL F. COWLEY, M.Sc., Assistant in the Department.

The remains examined were all in a very fragmentary condition, and, except in the case of the ox, most of the information was derived from the teeth, of which a fair number was available. The material includes remains of at least five types—ox, sheep, pig, deer, and horse.

It was found possible to reconstruct from the fragments most of the hind portion of one skull of an ox, including the horn-cores, also part of the palate with the teeth on each side. This was found in Pit C. The skull agrees fairly well with the description and dimensions given for the Celtic Shorthorn, *Bos taurus* var. *longifrons*

Lydd. In addition there were three portions of lower jaws (the left side in each case); a number of teeth, including one belonging to a milk dentition series; various fragments of ribs; six vertebrae, all of them considerably broken; one astragalus from the left side; the head and a portion of a left femur; part of a pelvic girdle; and two phalanges. The remains appear to include those of at least four animals of this species.

An interesting point is that part of the upper jaw of the Pit C skull on one side shows two notches or cuts, which look as though they had been made by some sharp instrument. The upper surface of the skull shows similar, though less definite, markings in various places.

The remains of sheep (*Ovis aries* Linn.) include nineteen teeth, belonging to more than one animal, fragments of three ribs, the distal end of a metacarpal bone, etc. No significant difference in size or otherwise could be found on comparing the teeth with those from skulls of modern sheep. In the absence of any portions of skulls or horn-cores no definite statement can be made about these remains.

What was probably the wild boar (*Sus scrofa* Linn.) is represented by two fragments of jaw, one apparently upper jaw, containing three teeth, the other lower, with two teeth; one single molar tooth, not much worn; and one tusk.

The material includes a number of teeth which seem to belong to a small species of deer, possibly the roe. No bones of these animals were present, unless among the small debris which was too fragmentary for purposes of identification.

The horse was poorly represented, there being only one incisor tooth from the upper jaw, and one fairly complete metacarpal (cannon-bone). This bone was compared with the corresponding bone from the skeleton of a light type of draught-horse and proved to be of practically the same length, but much more slender. The tooth is considerably smaller than the corresponding incisor in the jaw of a modern horse. It is to be regretted that more remains of this animal were not available. There is nothing to indicate whether the bone and the tooth belong to the same animal or not.

It would seem likely that we have here the remains of both wild and domesticated or semi-domesticated species, all of which may have formed part of the food supply.

The assumption that the horse may have formed part of the dietary of these people is in agreement with the conclusions of workers on remains from other early sites—Boyd and Jackson, for example, in their account of the Glastonbury lake village material.¹ Remains of horse were also found in material collected from an Early Iron Age site at Merthyr Mawr, Glamorgan, in 1926, and examined in this Department.²

¹ Remains of horse were also found at Park Brow in the Hallstatt settlement site. These include a skull now in the Brighton Museum. G.R.W.

² 'A Settlement of the Early Iron Age (La Tène I, Sub-period) on Merthyr Mawr, Glamorgan'; Appendix I (*Arch. Camb.*, June 1927).

TABULAR SUMMARY

Index letter of pit.	Dimensions.	Artifacts found.	Notes.	Date.	Figures.
A	Floor 4 ft. \times 4 ft. Depth 6 ft. 0 in. Circular.	La Tène I brooch, loom-weight, spindle whorls, pottery, etc. Pots herds.	Opened in 1925. <i>Archæologia</i> , lxxvi, pp. 11, 12, 20, 21. Opened in 1925.	Late La Tène I.	Fig. 4.
B	Floor 4 ft. 0 in. in diam. Depth 3 ft. 2 in. Circular.				
C	Floor 6 ft. 4 in. \times 3 ft. 1 in. Depth 3 ft. 4 in. Squarish oval.	Pots herds, iron knife.	Ox skull on floor within a circle of flints.	Early La Tène II.	Fig. 7.
D	Floor 2 ft. 6 in. in diam. Depth 3 ft. 6 in. Circular.	Pots herds.		La Tène II	
E	Floor 5 ft. 6 in. in diam. Depth 3 ft. 6 in. Circular.	Pots herds, bone lance-head.	Contained very numerous pot-boilers in black charcoal-stained soil.	Late La Tène I (transitional).	Fig. 5.
F	Floor 4 ft. 5 in. \times 3 ft. 6 in. Depth 3 ft. 4 in. Oval.	Pots herds.		Late La Tène II.	Fig. 9.
G	Floor 3 ft. 5 in. \times 1 ft. 11 in. Depth 4 ft. 4 in. Oval.	Pots herds (small and abraded).			
H	Floor 4 ft. 0 in. in diam. Depth 3 ft. 2 in. Circular.	Pots herds, iron bar.	Partially opened at an unknown date.	Early La Tène II.	Fig. 6.
I	Floor 3 ft. \times 2 ft. 2 in. Depth 2 ft. 6 in. Squarish oval.	Pots herds		La Tène II.	Fig. 8.
J	Floor 5 ft. \times 4 ft. Depth 2 ft. Nearly circular.	"		La Tène I	
K		Very scanty sherds.	Imperfectly examined. Full of pure chalk rubble.		

A Neolithic Site at Abingdon, Berks. (Second Report)

By E. THURLOW LEEDS, M.A., F.S.A.

[Read 23rd February 1928]

AT the close of the description of the site itself in the first report it was stated that the rise in the level of the trench east of the pit containing Hearth 4 suggested the presence of a causeway beyond. It is now more than doubtful whether the evidence is capable of such interpretation. Just beyond the top of the slope where all signs of the usual cultural layer had disappeared, a fine specimen of a comb and some sherds were found, but after that nothing but occasional flakes of flint and a very few sparse sherds.

Some 5 ft. from the end of our previous work we encountered a thick layer of calcareous deposit overlying the gravel at a height only 2 ft. below the surface. This deposit itself was in turn overlain by a somewhat marly deposit devoid of the black tinge which marked the upper filling of the trench farther west. The calcareous layer constituted a broad band with a straight edge transverse to the trench westwards, but quite irregular in outline to the east, where it bounded a pair of pits, $4\frac{1}{2}$ to 5 ft. deep, filled with a stiff marly material. Such sherds as were found occurred immediately above the calcareous layer at the top of the slope or at the bottom of the pits.

Further soundings eastwards and southwards along the edge of the field showed that this tufa was to be found at almost any point east of the limit of our former work, and subsequent development of the gravel-pit in the same direction has bared it in an almost continuous line.

The layer is in fact a natural deposit left by the recession of flood-water or formed by plant-life, and is to be observed even now in process of formation on the edge of pools of water which collect on the floor of the gravel in wet weather, only to disappear in the dry.

But curiously enough we have evidence to prove that the layer in question was at any rate in part deposited actually during the period of Neolithic occupation. Close to the site of the hut-hole¹ (A, fig. 1) we explored a small portion of a pit, B on the plan (the rest unfortunately destroyed before it came to our notice), in which

¹ *Antiquaries Journal*, vii, 440.

were found two flakes of unpatinated flint, bones and two tines of antler, the last worn at their tips by use, but unfortunately no pottery. The main point to notice is, however, that the finds lay in a stiff marly deposit below the same thick calcareous layer already mentioned, while close to this pit northwards a pit described below containing pottery like that of the main trench was found to have been excavated through the calcareous layer. The absence of pottery in the first of these two pits does not allow us to say whether its occupants and the makers of the main trench were one and the same.

In regard to the formation or purpose, if artificial, of the pits at the eastern end of the trench we have no explanation to offer.

From the barren area at the east side of the field we turned our attention to the section of the trench exposed in the northern face of the gravel-pit, as shown between x — x in fig. 3 of the first report. As the trench enters this face at a slant along a north-westerly line continuous with that of the portion previously explored, a large stretch of its southern side had been destroyed. Not until a portion corresponding to 25 ft. of the gravel-face had been excavated was a complete transverse section of the trench uncovered once more. Within 8 ft. of that point the filling stopped and the gravel rose in a curve across the trench to its normal level, some 15 ins. below the surface. In a trial trench driven still westwards the gravel began to dip once more 7 ft. farther on, so that here at last an unmistakable causeway came to light, a belt of gravel left undisturbed by the makers of the trench.

It had previously been suggested to me that the elevated portions encountered in the southern part of the trench were in reality causeways, but, if so, they were refillings subsequent to the excavation of the original trench, and, as was observed in the first report, whatever might be said of the filling at the western end of our early work,¹ that near the bolster-shaped mound, at any rate, hardly answered to the description in view of its irregular formation and the narrow ditch on its northern side. The high-level gravel beyond the pit containing Hearth 4 more nearly fills the bill, but the calcareous deposit for reasons given above makes it probable that even here there was no causeway in the strict sense, but rather a bank dividing the trench from the low, often waterlogged ground beyond. It should here be added that there is an appreciable fall in the surface level of the field towards its eastern boundary, amounting to a difference of four feet between the two ends of the trench on the plan.

¹ It is, however, possible, judging from the length of the complete section, that there was a true causeway between N. 1 and S. 1.

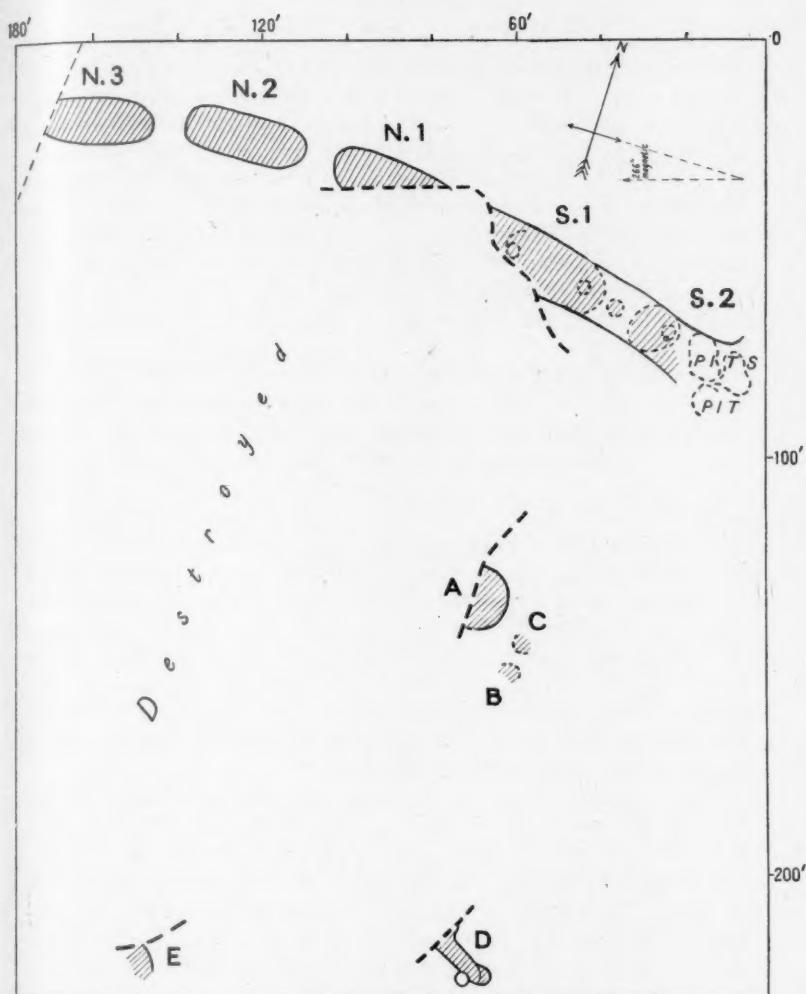


Fig. 1. Abingdon Neolithic Settlement. Plan of site.

The first portion of the trench (N. 1 on the plan) was succeeded beyond the causeway by a second (N. 2) 30 ft. in length with curved ends. This section ended at a second causeway similar to the first, and 8 ft. wide. Beyond it lay yet another section of trench (N. 3) constructed in a similar manner and approximately the same length, before it stopped at what was probably a third causeway. This, to judge from the angle of slipped gravel close to the modern roadway leading down into the pit from the high-road, must have coincided very nearly with the roadway itself.

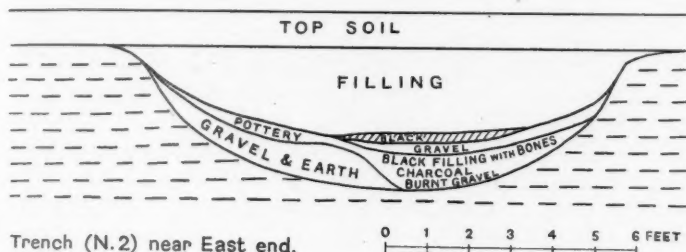
Trial-holes, excavated on the other side of the road, led to nothing further, the ground having been previously disturbed by gravel-digging.

The filling of the northern sections resembled closely that of the southern portion, where was the same greater steepness on the northern face and the same wide slip of material on the southern. At some points this latter was even more pronounced than before. For example, near the eastern end of N. 2 the slip extended over 5 ft. from the face beyond the middle of the trench. This slip must have occurred quite early in its history, since, as will be seen from fig. 2, *a*, its inner edge forms a bank between which and the northern side of the trench is a filling with bones, charcoal, and pottery. But here, as contrasted with our earlier experience, the filling was quite distinct from and was not overlaid by the fallen debris. Unlike that of the southern section, however, the filling was not continuous vertically, but at 6 in. from the floor to the highest level of the slide was covered by a thin gravelly layer, succeeded by a marked black band.

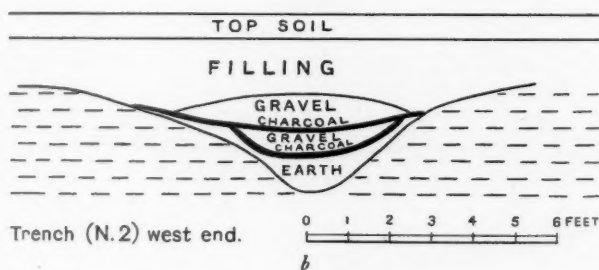
These twin layers of charcoal with gravel between were found to be a constant feature of the northern trenches. In a section taken close to the west end of N. 2 (fig. 2, *b*) it will be seen that a pile of gravel even covers the upper charcoal band. The earth shown in the bottom of the ditch in this section has its counterpart in another (fig. 2, *c*) from the west end of N. 3, and, as was clearly visible there, was caused by an early slip of soil expanding moraine-wise from the end of the trench. In N. 3 a few sherds and flints were recovered from this earthy layer, but before its deposit a black patch had been burnt on the indurated gravel which here formed the floor of the ditch.

From this region was obtained the best idea of the original section of the trench. It will be seen that the earthy deposit of soil, 6 ins. deep at the middle, extends for 8 ft. across a gently curving floor, while beyond on both sides the face rises rapidly to the surface. The observation of these steep faces was rendered possible by the trench having been cut at this point through a belt

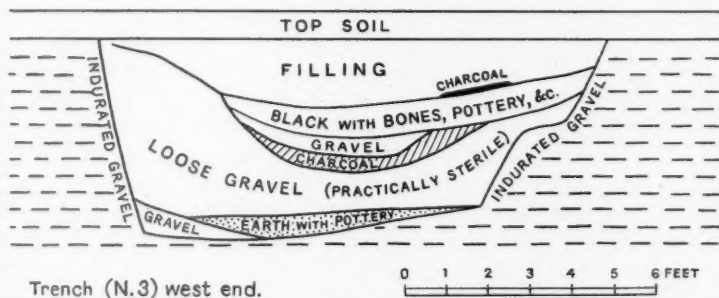
of indurated gravel, rising to the very top on the south side, but capped with looser material on the north, resulting there in a bank



a



b



c

FIG. 2, a-c. Sections of trench.

of gentler slope. For some reason not long after the first slide of earth there was an even greater slip of loose sandy gravel from both sides and from the end. The layer thus formed was absolutely sterile and only above this did the normal cultural deposit appear, much diminished in width, but nearly 3 ft. thick.

A thick black patch, the remains of a hearth, occurred on the top of this layer close to its northern edge, 2 ft. below the surface. Beside it lay a flint arrow, as near H. 4 in the southern trench. Taken as a whole, though burnt stones were common, sometimes found in groups, the traces of hearths were not so well-defined as previously, possibly because the charcoal layers were here more continuously thick, and more markedly so at the western end of each of the sections.

The main result of our later work has been to clear up the trend and purpose of the trench. It is now quite clear that it stretched across a tongue of gravel between two small streams, which served as defences on either flank. The rampart of the trench would thus have been cast up on its southern side, accounting for the greater mass of detritus in the southern part of the trench. But why, having with great labour excavated the trench, the makers should have regarded with heedless eye the destruction of half their toil and incontinently have elected to use the trench as a general dwelling-place—for no one who has seen the masses of broken bones, in some places an almost solid layer 6 in. thick, the innumerable flints and sherds, could possibly believe otherwise—remains one of those problems that no amount of conjecture can solve.

Within the limits of this neolithic settlement bounded on the north by its protecting ditch, at a point some 50 yards south of the eastern end of the trench (D on the plan, fig. 1), there came to light in the latter part of last year what seems to have been part of a pit-dwelling. The portion we were able to explore consisted of an oval pit 10 ft. long and 6½ ft. wide closed at the eastern end, where a low curving bench of gravel sloped up to the wall from the floor of the pit. The dwelling was entered at the west end by a sloping passage of which five feet were preserved. From this passage there seems to have been a second chamber leading northwards, but only a small part of this was preserved. On the south side of the complete chamber and just within the entrance an almost circular pit was separated by a low party-wall from the main chamber formed by leaving a narrow strip of the calcareous layer through which the dwelling had been excavated. Just within the party-wall a patch of earth impregnated with charcoal probably marked the position of the hearth-place.

The finds were scanty, a neat flint arrow-head and a small quantity of sherds, a feature of which was the prevalence of grit-compounded wares contrasting strongly with the shelly pottery prevalent in the main trench. There was, however, no marked variety of form to correspond with this change of material, and

the presence of a vase almost duplicating a form found in the trench excludes the possibility of chronological or other differentiation.¹

FLINT (pl. LXXII, fig. 1)

All sections of the trench produced as before large quantities of flint, flakes, cores, and finished implements.

Scrapers (a-f). Frequent, but usually of rough workmanship. Though some attempt has often been made to trim them to a semicircular or approximately round shape, it is quite common to find a domed flake with extensive remains of cortex, sometimes with a large flaw in the mass, and with only a little steep chipping at the edge. Only in one small round specimen has the maker taken the trouble to strike off the bulb of percussion, as was so often done in well-finished implements, but even here much of the cortex has been left untouched.

Serrated flakes. As before in large quantities; some with minute serrations, apparently unused, others broken and jagged at the edge. It may be said at once that the high polish which has been observed elsewhere on such serrated flints and which trial has proved to have been produced by cutting straw, is entirely absent from the Abingdon specimens.

Arrow-heads (g-m). Three complete and four fragments of the usual leaf shape, the longest $2\frac{7}{8}$ inches. A variant (*j*) came from the site D. It is of short, broad, pointed ovate form, but with one end chipped to a fine attenuated point.

Knife (n). Unfortunately incomplete, lacking its point, but of the rare curved type as Evans, figs. 268-70. The portion preserved measures $5\frac{1}{2}$ in., and the knife when complete may have been about $8\frac{1}{2}$ in. long. It is lozenge-shaped in section and has been carefully trimmed; at the butt a slight knob has been left providing an excellent grip. The butt-end shows signs of batter, as if the broken knife had been used as a pestle. Knives of this type are by no means common. Examples cited by Evans come from the following localities:—Fimber, Heselton and an unspecified site on the Yorkshire Wolds; North Stow, Suffolk; Bexley and Grovehurst, Kent; and Eastbourne, Sussex. From Grovehurst, one of the sites mentioned in the last report in connexion with the distribution of neolithic pottery, there are in the British Museum in addition to the fine specimen figured in the *Stone Age Guide*, three more or less complete examples, smaller in size,

¹ Remains of another hut-hole have since been detected some hundred yards from the road, not far from the point of the promontory formed by the junction of the two brooks.

but roughly of the same type. They thus all come, with exception of the new piece, from eastern or south-eastern counties.

Axes. In addition to several pieces of mutilated polished axes, four fragments were recovered from section N. 2. These proved to be parts of one axe (pl. LXXII, fig. 1, *a*), the surface of which has been pitted by the action of heat which was responsible also for the larger fractures. Lenticular in section, and originally thin-butted, it measures $3\frac{1}{4}$ in. in length and $2\frac{1}{2}$ in. wide.

Patination. It may be worth while to record here the observations which have been made during the course of the excavations on this subject. In the first report it was stated that the flints were bluish, bluish-white or pure white externally, and so far as the individual specimens go this still holds true. But when the flints were considered in bulk, the matter assumed a different aspect. It was then found that, whereas the mass of flints from the eastern section of the trench tended as a whole to be bluish or bluish-white with no more than a few white specimens, such as thin flakes and arrow-heads, in the western sections, and more particularly in sections N. 2 and N. 3, the flint seen in bulk was pure white, with the bluish tinge as the exception.

In strong contrast to these were the flints from site D. Here for the most part there was practically speaking little sign of alteration at all. Now and then a bluish tinge, but in the main entirely unpatinated flint, black or brown in colour.

The differences thus seen are striking and open up the question whether at the eastern end of the trench where the level of the field fell, the greater moisture may not have preserved the flints from that degree of alteration to which they would be liable in the sometimes drier level at the western end. That is to say, that at the eastern end the moisture was more constant than at the western.

It should be noted that the differences in colour apply to the flints from all depths in the trench from about two feet below the surface to the bottom at $4\frac{1}{2}$ to 5 ft. This raises the question of the flint from site D. This site lies at practically the same contour as the eastern end of the great trench, and here too the bearing layer, in this case only 1 ft. thick, begins at 2 ft. below the surface. The bottom of the excavation, however, rests on the calcareous, rather clayey, layer and does not enter the gravel at all. In such a position the flints would be liable to lie in stagnant water collected in the bottom of the hole, and having been once saturated would patinate more slowly than in constantly changing water where the dissolved silica would be carried away. At the eastern end of the trench the water would be largely marsh water from

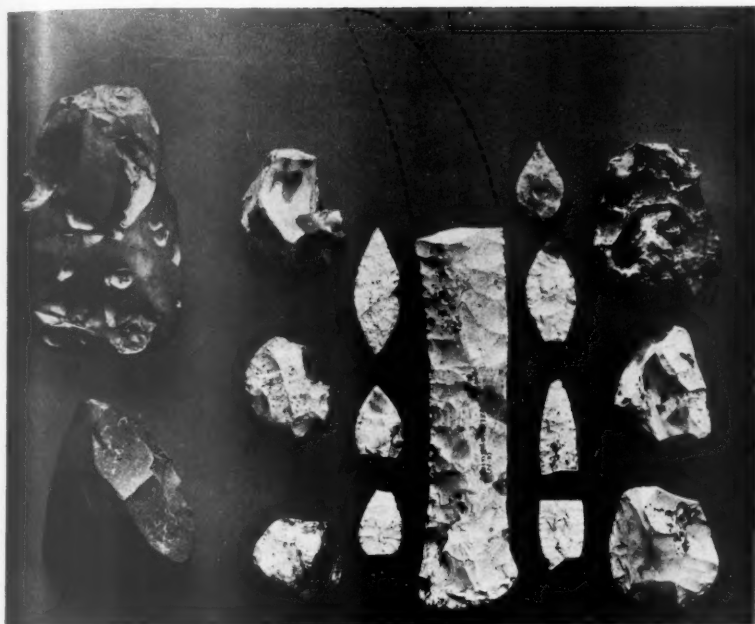


FIG. 1. Flint implements

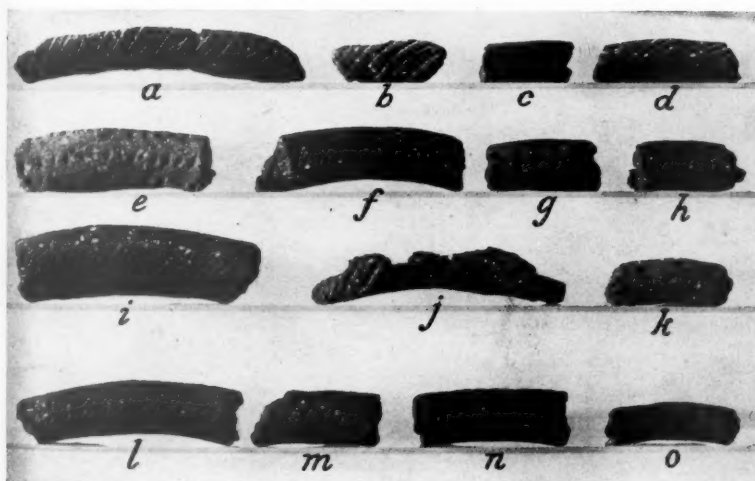
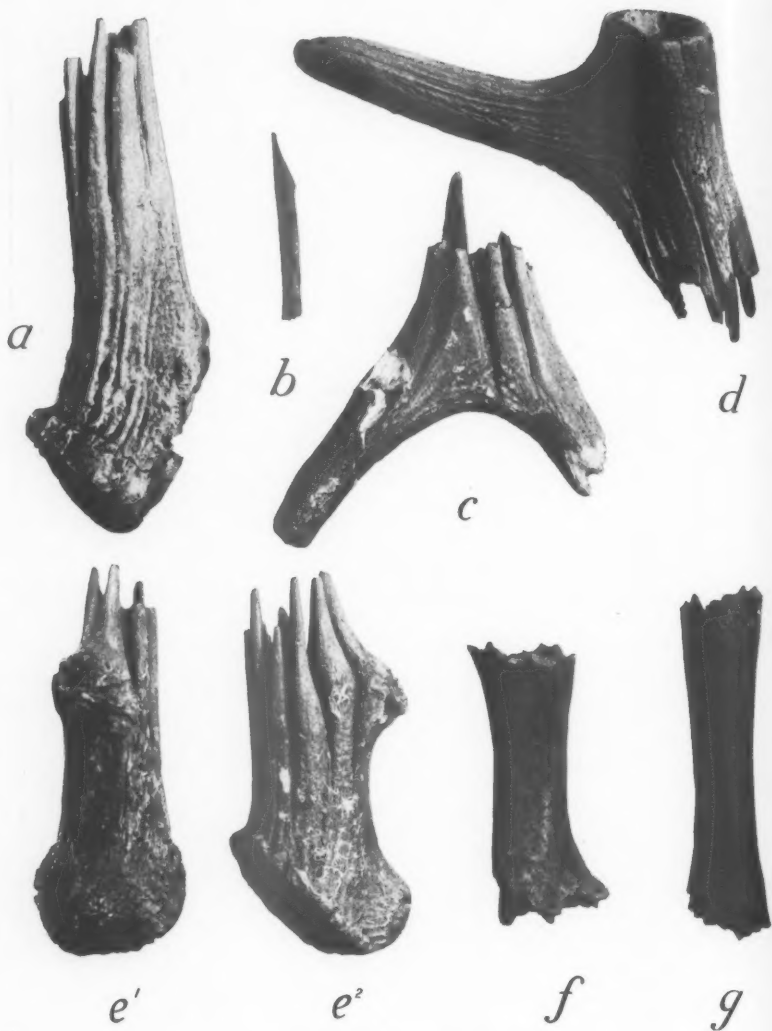


FIG. 2. Decoration of rims ($\frac{1}{2}$)



Antler combs and bone implements ($\frac{1}{2}$)

the silted brook. This marsh water, containing a solution of calcium hydrogen carbonate, would probably be a worse solvent for silica than pure rain water, and patination would consequently be very slow. In contrast at the western end there would only be pure rain water percolating through the filling of the trench into the gravel below, which at the bottom of the trench lay well above the soakage-level even in the wettest weather. It may be that such an explanation of the variation in patina would not be universally applicable. It is merely advanced in this particular case where the phenomenon is so strongly marked within an area of quite narrow compass.

STONE

Axes. The previous discovery of a flake from a polished axe of green schistose rock was followed up by the finding in section N. 1 of three large fragments (e.g. pl. LXXII, fig. 1, *p.*), one with almost every trace of the polished surface struck off it, and one or two flakes. They have the appearance of belonging to more than one implement.

Choppers. Of quartzite; one nearly circular, flaked to a good edge for about one third of the periphery; the other, hardly deserving the name of an implement, is a flake struck from the side of an oval pebble, with an attempt at trimming along one edge.

Hammer-stones and pot-boilers. Quartzite pebbles of all sizes, some of which can only be assigned to the former class by the signs of batter at some point.

ANTLER and BONE (pl. LXXIII)

The remarkable series of combs described in the last report has been augmented by further discoveries. The new examples place beyond all doubt the question of their being real implements. A thick, short specimen (e^1-e^2), found on the bank just east of H. 4 (see first report), has been manufactured from the base of a shed antler with brow and bez tines cut away. It measures only $5\frac{7}{8}$ in. in length. It has nine teeth in good preservation, irregular in length; several of them are rough at the point and may have been broken since deposition, but four at least, two of the longest and two of the shortest, have smooth, worn tips. One tooth is immediately over the bez-tine, and the furrows made in shaping it pass on each side of the root of the tine to a point well below it, while above the root the tooth is no more than $1\frac{1}{2}$ in. long and widens rapidly at its base. No one would have set to work to fashion a pin with a large rugose lump breaking its line so close

to the point. The basal part of the antler shows like the teeth a high degree of polish; even the coronet has been worn down by constant handling.

The first part of the northern section yielded two specimens. The first (*a*) is also made from the lower end of a shed antler in which the brow and bez tines were set so close together that the surface where they have been cut off, weakened by decay, has broken out, leaving a large cavity in the shaft. It is 8 in. long and has ten teeth imperfect at their tips. These, like the rest of the comb, have the appearance of being only newly made, since the surface still retains some of its original roughness, and on two broad-faced teeth the natural striations are still visible. The antler shows little or no signs of polish and is rather soft.

The second (*c*), like one found previously, has a forked handle formed by two short tines. Of the nine rounded teeth all but one have been broken, but one at least of the shorter teeth has been worn down again to a rounded point. The longest measures $3\frac{1}{2}$ in. from the crutch of the tines. The cuts between the teeth in this case run down beyond the fork and their ends even diverge into the lower ends of the tines. This comb is like the first, highly polished.

A fourth comb (*d*) from N. 3, though imperfect, presents novel features. The antler has been carefully sawn through above the bez-tine of which some $4\frac{1}{2}$ inches have been retained. Of the teeth seven can still be counted and three more at least have perished or been split off with a continuous strip down to the end of the tine. The teeth, though sadly imperfect at their tips, show sharp edges at their base, as if only blocked out, and never actually used. In this specimen, with its tine purposely retained to serve as a handle, we have an unmistakable hackle, as must be all the rest. The tooth with widely diverging furrows at its base in the example with forked grip excludes all idea of pin-making as an explanation of these curious objects.¹

BONE

A pin or awl, $1\frac{3}{4}$ in. long made from a small bone (pl. LXXIII, *b*). From time to time pieces of bone have been picked up, usually split and with a notch at one end. Most of such bones have shown no trace of polish, so that the notch which is also rough and without any sign of finish must probably be accidental.

¹ A parallel to these combs, additional to those cited in the last report, comes from Maiden Bower, Dunstable (*V. C. H., Beds.*, i, 169, fig. 60). Mr. Alexander Keiller, F.S.A., has kindly drawn my attention to exactly similar implements used by Eskimos for removing loose hairs from skins in the process of dressing them (Annual Report Smithsonian Inst. ix, 301, fig. 301).

One such notched fragment, however, has a high polish, and though the notch here too is rough, it may have been intentional.

Among the enormous quantities of broken animal-bones which the excavations have produced, some pieces, usually shank-bones of young animals, have been found with the high polish which comes from frequent handling. One or both epiphyses have been knocked off and the edges of the bone thus left exhibit a series of rough notches (pl. LXXIII, *f* and *g*). Apart from the polish, there is little to distinguish these bones from others, but the polish is certainly proof of their use for some purpose. It has been suggested to me that they might have been used for scutching skins.

POTTERY (figs. 3-5 and pl. LXXII, fig. 2 and pl. LXXIV)

Large quantities have again been collected without adding very greatly to the knowledge obtained from the previous excavations. More intensive examination of the material has, however, revealed a few points which are perhaps worthy of record. In the first place the external appearance of the fragments, where no rim or other distinguishing detail is available, has proved often to be no sure guide towards determining whether they do or do not belong to one and the same vase. Removal of the outer crust of this imperfectly fired ware by decay effects such an alteration, that two sherds which actually join may appear radically different in texture. Secondly, the pottery when subjected to real heat will turn red, as shown in pl. LXXIV, fig. 2, *b*, where of the two fragments composing the sherd the right-hand piece is smoky black in colour, whereas the left-hand piece is brick-red. Thirdly, it is clear that although groups of sherds belonging to one vase have from time to time been found within a fairly limited area, others equally clearly from one and the same vase lay scattered up and down the trench. Of two fragments of a rim now fitted together one came from near the bolster-shaped mound described in the first report, the other from the section N. 1, some 40 ft. away. Again further pieces of the fluted rim (first report, fig. 2, *g*) were found in N. 1 and N. 3. It may here be noted that fragments of a fluted rim, a trifle larger, but otherwise so similar as to be hardly distinguishable, came from site D.

There is little doubt, as was previously suggested, that many of the thick reddish sherds come from the bottom or the lower parts of the walls of large round-bottomed vases. But to one big sherd of this colour from the new work a rim (fig. 3, *j*) has been fitted, proving the existence of vases thick-walled throughout as contrasted with the tall thin-walled types described in the first

report (e. g., fig. 8, *b*) to which more than one parallel has again been found.

The presence of pottery made with grit instead of the more usual pounded shell was noted in the first report. A good example is the vase to which belongs the unusual rim (fig. 6, no. 8, first report). A close watch on the sherds collected shows that they came from a bowl made of a close-grained, hard fabric com-



FIG. 3. Abingdon pottery; sections of rims ($\frac{1}{8}$).

pounded with finely pounded grit. As usual the neck seems to have been gently hollowed and to have passed into a well-marked shoulder with a double row of punctuations and with horizontal loop-handles. The two vases with fluted rims noted above are also of the same ware, but these are slightly coarser; other sherds again reach a degree of coarseness which to the touch is not far removed from that of coarse sand-paper.

In the main trench the grit-compounded pottery was as a whole rare. In curious contrast is that from site D where the shell-compounded ware was the exception, although it cannot be said that there is any apparent difference in the forms, apart from one striking example described below.

Rims (fig. 3 and pl. LXXII, fig. 2). Nothing distinctively novel can be recorded, but the proportion of simple forms, either perfectly straight (fig. 3, *a*) or with only a gentle outward curve (*b-d*) was possibly rather greater than previously. A neat effect was produced in thin carefully fashioned vases by turning down the rim so as to form what looks like a blunt hook in section (*e-g*). A



FIG. 1 *a-c*. Round bottomed bowls ($\frac{1}{4}$)



FIG. 2. Decorated pottery ($\frac{1}{4}$)

plain, bulbous rim (*h-j*) was frequently associated with thick sherds, apparently belonging in some cases (*j*) to large ovoid pots. The 'hammer-head' rim was again common (*k-o*); one of them (*m*) illustrates the method of making this type by squashing down the top of the vase.

In pl. LXXII, fig. 2 are shown the various methods of decorating rims. The principal method was by incision, transverse cuts, short slashes, stabs or punctuation, more than one occasionally used on the same vase (*j*); not uncommon, but rarely well preserved are transverse cord-impressions (*l-m*). Less common is the carefully executed fluting, while unique are two small fragments



FIG. 4. Restoration of bowl ($\frac{1}{2}$).

with neat transverse impressions, apparently made with a short, toothed implement (*o*).

Handles. Ledge-handles, perforated knobs (as pl. LXXIV, fig. 1, *c*), horizontal and vertical loops as before. An unusual example of the last is illustrated. On one side (pl. LXXIV, fig. 2, *f*) it is formed like an ordinary typical loop; on the other (fig. 3, *p*) like the perforated ledge type. Vertical loop-handles springing from the rim are a new feature (pl. LXXIV, fig. 2, *a*, and another small specimen).

Forms (fig. 4 and pl. LXXIV, fig. 1). The large bowl (pl. LXXIV, fig. 1, *c*) presents a truer idea of the original form than the reconstruction of a similar bowl (fig. 7, *b*, in the first report). The base, as shown by the large portion associated with two-thirds of the upper part of the new vase, is flatter than in the earlier reconstruction, giving the whole form a more squat outline, about $6\frac{1}{2}$ in. high and 10 in. in diameter. Of two smaller bowls enough was recovered to admit of reconstruction. The first (pl. LXXIV, fig. 1, *b*), 4 in. high and $6\frac{1}{4}$ in. in diameter, is of light brown sandy ware with a carelessly formed rim, the turn-over of which gradually passes from the outside at one point to the inside at another. The other (fig. 4) is of the usual shell-compounded ware. When complete it measured $4\frac{1}{2}$ in. in height and about 7 in. in diameter.

The small, partly restored pot (pl. LXXIV, fig. 1, *a*) is of the red-fired sandy ware which it was suggested was used for making

ruddle-pots. It is $2\frac{1}{2}$ in. high and is crudely fashioned with a plain rim and thick walls. Alongside some of the sherds which have gone to build up the vase lay a lump of baked red material, possibly the ruddle itself.

Decoration (pl. LXXIV, fig. 2). A few particulars of some other sherds may be of interest. The most noteworthy is a parcel of sherds made of a paste mixed with finely pounded shell, burnt partially red on the outside. Out of these it has been possible to reconstruct the large sherd (*a*). It belonged to a vase with a rounded rim decorated with regularly spaced diagonal incisions. In the hollow of the neck are faint vertical incisions; the shoulder is ornamented with a double row of incisions made apparently with a lunate-ended tool, while on the body are irregular slanting scratches. A special feature is the vertical loop-handle which differs from the ordinary type placed below the rim. Here the handle springs from the rim itself. It is carefully made; broad, half-round in section, and on the inner face has a twin hollow separated by a sharp ridge formed by the two fingers on which the handle was shaped before it was luted to the vase. The handle is decorated with four rows of incisions made with the same lunate-ended instrument.

Other sherds (*c*) furnish an example of variant decoration on one vase. A flattened rim is decorated with a double row of short diagonal slashes (pl. LXXII, fig. 2 *f*), longer in one row than in the other. The neck would be indistinguishable from the body except for the presence of a faint shoulder. On three sherds the following varieties of ornament appear:—(1) a panel of five rows of punctuations with a large plain surface alongside; (2) faint vertical lines; (3) a panel of four rows of small incisions made with a notched tool. The two left-hand fragments actually fit together.

The fragments with fluted rims mentioned above from the main trench and from site D show in both cases a succession of faint vertical burnishing lines below the rim¹. Some other fragments from the same small area of site D, with the customary double row of punctuations on the faint carination of the shoulder, must, to judge from their texture and coloration, have belonged to the same vase as the fluted rim, as probably for the same reasons did also the most outstanding novelty among the newly discovered pottery. This is no less than fragments of a flat base (pl. LXXIV, fig. 2, *d*, and fig. 5), at least 4 in. in diameter, with a very faint hollow at the centre. Around the edge is a rounded flange, above which is a

¹ Fragments of a bowl from Auchnacree, Argyll, exhibit identical fluting on the rim and neck.

marked groove at the base of the wall. The flange has been decorated with a continuous band of short slanting lines, and a second register of small groups of three similar lines at regular intervals appears immediately above in the groove.

A large sherd (pl. LXXIV, fig. 2, *e*) from the main trench belonging to a large vase with quite thin walls is more heavily ornamented than any other yet found. It has no less than eight horizontal lines of punctuations made with a six-toothed instrument. The teeth were of various sizes, allowing the impressions of the instrument to be clearly detected. First comes a small round hole, next a somewhat larger squarish hole, followed by a still larger round one. Beyond these is another larger round hole between two



FIG. 5. Fragment of decorated flat-bottomed vase from Site D ($\frac{1}{2}$).

small round ones. Sometimes the tool has been used in the reverse direction as shown by the position of the square hole.

A few other small fragments call for remark. The first (pl. LXXIV, fig. 2, *g*) has a column of short, horizontal incisions, beginning immediately below the rim, and recalling the decoration on one of the bowls from barrow 7 at Towthorpe, E. Riding, Yorkshire.¹ A second (pl. LXXIV, fig. 2, *h*) is unique among the pottery of the Abingdon fabric, since the deep, close-set incisions with their honeycomb effect suggest rather the system of profuse decoration associated with the Peterborough ware than the restrained ornament that distinguishes the Windmill Hill class. Of Peterborough ware, however, one unmistakable fragment, as usual greasy to the touch (pl. LXXIV, fig. 2, *i*), can be added to the piece previously recorded. It is a portion of a deep overhanging rim (see section, fig. 3, *q*) exactly comparable with that from Astrop, Northants.² The edge is decorated with incised strokes and the outer face with vertical zigzags.

Apart from these two exotic sherds it remains to record once more the entire homogeneity of the pottery from this site and the complete absence of anything resembling that associated with the British Bronze Age.

¹ Mortimer, *Forty Years*, pl. II, fig. 14.

² *Reports Oxfordshire Arch. Soc.*, 1912, pl. opp. p. 116, nos. 1-3.

ANIMAL BONES.

As noted both in this and in the former report, animal bones have been found in large quantities throughout the filling of the different sections of the trench. For the most part the bones were in fragments, evidently the debris of food, though occasionally complete limb bones were met with. Those of ox and pig predominated, but deer and sheep were also common; a few broken limb bones of birds, and very rarely fragments of carnivora.

A striking feature of the remains of ox was the frequency of bones of young animals, which has led Mr. L. H. Dudley Buxton, F.S.A., who kindly examined a large selection of the bones for me, to suggest that the occupants of this settlement were cattle-breeders, since a people relying entirely on the chase for its meat preferably selects full-grown animals for its quarry.

HUMAN REMAINS.

In the trench on two occasions fragments of human skulls were found, both from quite young persons. This may, as Mr. Buxton suggests, indicate that it was not the practice to accord burial to children below a certain age. Personally we encountered no signs of any interments, but in 1905 Miss B. Freire Marreco (Mrs. R. Aitken) obtained from this pit a human skeleton, which she presented to the Department of Human Anatomy, Oxford. According to the workmen, 'it lay in a small square hole, doubled up with the head on the legs'. This seems to point to burial in a squatting position.

Mr. Buxton has supplied the following details: A young woman, of about 18 years of age; the skull with cephalic index of 75; the limb-bones markedly platycnemic and platymeric; the squatting facet strongly developed; slender build, more closely resembling known Neolithic types, with none of the strong, stocky build associated with Bronze Age or Early Iron Age man; in short a type of skeleton rare in post-Neolithic times.

The temporamandibular joint, again, is very primitive in type, indicating a hard diet and agreeing with that found among Eskimos and other peoples who may be termed primitive in the functional sense, and who spend much of their time chewing thongs and the like.

A second skeleton was also found at a depth of 4 ft. at the bottom of what appears, from a sketch made by Mrs. Aitken, to have been part of a trench similar to that excavated by us.

In conclusion I wish to record once more the deep gratitude which archaeology owes to the owner and lessee of the land for

the facilities which they readily accorded for the excavations ; and also to all those enthusiastic helpers whose aid has been throughout so material a factor in the recovery of this important contribution to the knowledge of the neolithic culture of this country.

DISCUSSION

Mr. BUSHE-FOX was interested in the cross-sections which showed that the trenches were not occupied as soon as dug, but apparently after a considerable interval of silting. Why such living-sites were chosen was a problem, but parallels were known from Windmill Hill, near Avebury, where there were concentric ditches of neolithic date. At Stonehenge also the ditch was divided into compartments by solid causeways, and occupied by early settlers.

Mr. LATTEY had been privileged to assist in the excavation, and pointed out that the eastern end, which became indefinite, had apparently had a filling for a causeway. That end was near the marsh and might have been begun in dry weather. The slight patination of the flints found at that end indicated that the water-level had subsequently risen and kept the soil moist.

Mr. REGINALD SMITH welcomed any new facts that threw light on the mysterious neolithic period, and much appreciated the hard work done by Mr. Leeds and his colleagues both in the field and the study. Patination was a question on which no two experts were in complete agreement, but the flints seemed to include half the blade of a dagger which belonged to a type contemporary in Britain with the earliest Age of metal. He inquired what was meant by the gravel being thrown out on the south side of the trench for defence, as the trenches were apparently not of a military character.

The PRESIDENT thanked Mr. Leeds for a careful and conscientious piece of work. He too was surprised that any one chose to live in such trenches and thought holes would have been preferable. The flooring of bone fragments to a depth of 6 in. must have been an additional discomfort, not to mention the carding-combs of antler. As patination was a subject of such complexity, he expressly commended it to the consideration of the Society.

Mr. LEEDS replied that the ground sloped away southward from the trenches to the river half a mile distant, and east and west of the series were two brooks which joined and supplied the Abbey fish-ponds in the middle ages. In neolithic times they were of greater volume than at the present day. The trenches were dug across the base of the triangle and were intended to block the site, which was chosen as being naturally defended on two sides. Shortly after the gravel was thrown out on the south of the trenches, much of the material slid back into the cutting, but he was not prepared to say why neolithic man lived on the silting. The four hearths in the trenches were good evidence of occupation. At Sutton Courtenay he had unearthed a Saxon dwelling with an ox skull and split bones in the floor, and concluded that primitive man was proof against such inconveniences.

The Maltese Rock-Tombs

By PROFESSOR T. ZAMMIT, C.M.G., M.D., Hon. D.Litt. (Oxon.),
Local Secretary

THE numerous tombs cut on the rocky ground at Malta have been considered, up to the present, to be of Phoenician origin. An attempt was made by later students to classify these rock-cut tombs in three periods, corresponding to the shape of the burial chambers and to the approach to them, mostly a more or less regular shaft.

The tombs of the first period are circular in plan, with a domed ceiling and a square entrance sealed on the outside by a rectangular stone slab (fig. 1, I).

Some of the early graves are cut in the face of cliffs, and therefore have no shaft or forecourt except a rough ledge of rock as an approach. In the early types the floor of the funeral chamber is flat and even, although a deep trench at right angles to the entrance makes its appearance even at this stage (fig. 1, I A).

The second-period tombs continue to have a circular chamber and a domed ceiling, usually with a deep trench across the entrance, but the shaft or pit of approach becomes rectangular and often attains considerable depth (fig. 1, II).

In the third-period tombs the shaft remains rectangular, and the funeral chamber, circular so far, also becomes rectangular with a flat rectangular ceiling. The trench, which in early tombs was cut across the entrance, is now found to run along the long axis of the floor, thus dividing the tomb in two parts with a flat ledge on each side of the trench, and affording accommodation for two bodies to be laid thereon. The trench may be wanting or modified in such a way as to turn the side ledges into one or two high platforms for the disposal of the dead. Occasionally in this third type of tombs (fig. 1, III) we find two, three, and even four rectangular chambers connected with the single shaft but independent of each other.

On the introduction of Christianity into the island, at the end of the first century A.D., the rock tombs suffered a marked modification more in the shaft than in the chamber, the former becoming wider so as to form a kind of ante-room. After some tentative amplifications, primitive catacombs were constructed. A shaft, in which usually steps were cut, led to an ante-room from which one or more straight corridors were dug out. At a height of about

1 m. from the ground, an arcossolium with a square entrance was cut, and beyond it, a comparatively narrow chamber, to take one or two bodies, was excavated in the direction of the walls of the

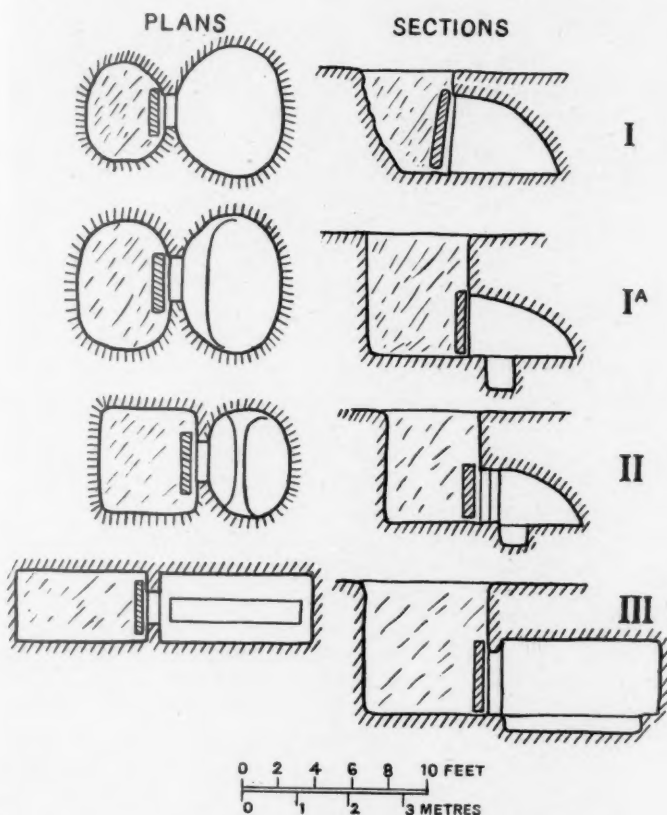


FIG. 1. Types of Rock-tombs of the Maltese Islands.

corridor. One or two circular notches were cut at one of the ends to allow the head of the corpse to be placed in it. These simple catacombs, inspired by the new faith, were either tombs of families or of sodalities.

From the shape of the rock-tombs and from their furniture it is usual, in Malta, to consider the rock-tombs as characteristic of four distinct periods: (1) the Phoenician, (2) the Carthaginian, (3) the Roman, and (4) the early Christian.

The Phoenician tombs (1) are characterized by the circular chambers with a circular or irregular shaft, from which a fawn-grey pottery, well made but mostly undecorated, was obtained. The most characteristic object in these tombs was the bilychnis lamp, very coarse and large at first, but more refined in comparatively late periods. Cinerary urns of an amphora type are met with in these early tombs. They are of a globular form, with short neck and two small handles, circular in section, stuck on the shoulders or extending from shoulder to neck. The urns are found covered with a circular plate on which a bilychnis lamp is placed. The rest of the furniture is scanty, usually in the form of pots, without handles or with only one handle (pl. LXXV, fig. 1). Most of the first-type graves contain only human ashes in one or more urns.

In the second type of graves (2) inhumation is the rule, though cinerary urns are very often deposited in the same chamber. The contemporary adoption of both forms of burial in the Maltese tombs requires special investigation and cannot be discussed as a side issue in the present paper.

After the first period, the cinerary urns are no longer globular and amphora-like but acquire the definite Maltese shape of a simple olla—Carthaginian in type, but different in shape, being globular on top, constricted below the middle part, and ending in a flat circular base (pl. LXXV, fig. 2).

The furniture in these tombs is more abundant and varied than in the earlier tombs. Saucers, cups, aryballi, and long clay unguentaria make their appearance. The lamp is still of the flat saucer-like bilychnis type, but less heavy, more conventional in shape, and more graceful. Glass unguentaria and copper ornaments such as rings, bracelets, and anklets are also found. Some of the rings have a swinging faience bezel, often in the shape of an Egyptian scarab with or without a hieroglyphic cartouche.

The third type of graves (3) contains the same type of cinerary urn and tomb furniture as in no. 2, but the objects are more numerous and more varied. Copper jewellery is met with, also glass, beads, stone and ivory objects (pl. LXXV, fig. 3).

The bilychnis lamp persists, but grey round monolychnis lamps make their appearance. These lamps resemble the usual Carthaginian type, from which, however, they differ in important details. Large ovoid amphorae are found at the entrance of the chamber in the third type of tombs; these are always found empty, but originally they must have been deposited full of water.

In the later tombs Roman influence is very evident: glass and clay bottles, ivory hairpins, bronze mirrors, simple copper ornaments, and numerous jars, cups, and saucers are abundantly met



FIG. 1. Tomb furniture of Phoenician type common in tombs of the First Period



FIG. 2. Tomb furniture of a Punic type, common in Second Period tombs, to illustrate the typical Maltese cinerary urns



FIG. 3. Tomb furniture of a rock-tomb of the Third Period with Punico-Roman objects

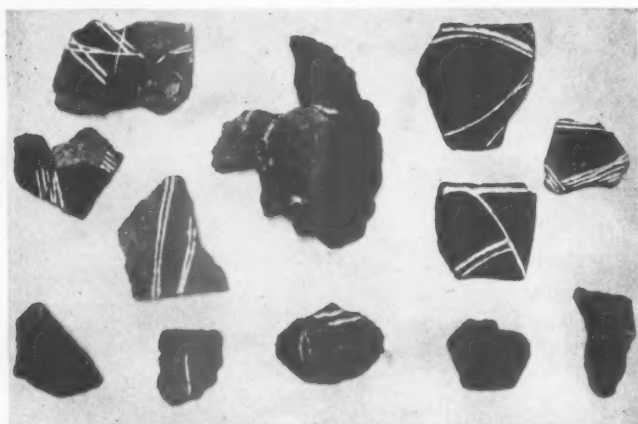


FIG. 1. Neolithic potsherds from a rock-tomb at Bukana (Attard)

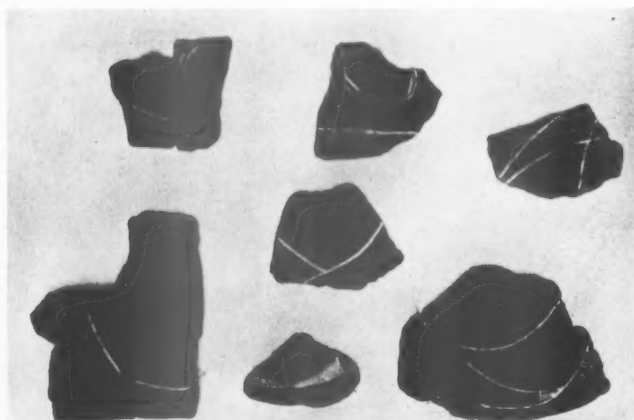


FIG. 2. Neolithic potsherds from a rock-tomb at Bukana (Attard)



FIG. 3. Neolithic pottery from the Gozo (Xaghra) rock-tomb

with. The typical red Roman lamp makes its first appearance in the tombs of the first century A.D.

This brief description of the main types of tomb-furniture of the numerous Maltese tombs was necessary to bring into relief the discovery of an early type of tomb containing pottery of distinctly prehistoric character.

The pottery so far described, found in all the types of tombs mentioned, is of a light buff colour, pale and whitish at times and brick red at others, according to the extent of the baking. This ware is usually undecorated or marked with simple red lines painted about the body; its firing, conducted certainly at a high temperature, makes it hard and red at its fracture, the sherds ringing like a bit of faience. The writer, who had the opportunity of opening hundreds of rock-tombs in Malta, has met with nothing but pottery of this appearance, and it was therefore a great surprise to him to find, in an ordinary rock-tomb, furniture of a totally different character.

ROCK-TOMB AT BUKANA (ATTARD)

In November 1910, whilst laying a water-pipe in the Bukana district, on the road to the west of Attard, the workmen reported that they had broken into a grave in which human bones were lying in what they described as fresh blood. On inspecting the site I found fragments of old human bones mixed with potsherds in a muddy pool deeply stained with red ochre. When dried and cleaned the fragments of pottery appeared to be quite different from those usually met with in rock-cut graves. This fact and the presence of red ochre induced me to send a note to *The Times* in order to put on record the unusual burial. The fragments of pottery collected on that occasion were of a dark brown colour, thin, poorly baked; some were rough, others smooth and decorated with incised lines (pl. LXXVI, figs. 1 and 2).

ROCK-TOMB AT XAGHRA, GOZO

On 12th June 1926, a farmer at Xaghra, Gozo, broke into a rock-tomb, and was so struck by a bright red pigment pervading the contents of the tomb that he reported the case to the police. The rock-tomb, just below the surface of the ground, was of the early (1) type. It consisted of a circular chamber 5 ft. 8 in. (1.73 m.) in diameter, with a domed ceiling 2 ft. 3 in. (0.69 m.) above the floor. The roughly square entrance, still sealed with a slab, was cut in a slightly slanting wall, and opened out into an outer conical pit about 3 ft. (0.92 m.) deep. The contents of the tomb were disarranged by the farmer, but they were all heaped in the vicinity.

Broken bones of at least four human skeletons were obtained, in addition to tiny fragments, mixed with stones and a sandy soil. Originally the bodies had been laid on a floor of stone slabs, which now appeared deeply stained with red pigment. Four almost complete pots were recovered along with minute potsherds. The ware differed from any other found in the ordinary rock-tombs, and its association with red ochre brought to my mind at once the early prehistoric burials and the tomb at Attard (Malta) of 1910.

On closer examination the pottery showed all the characters of some of the neolithic wares of Tarxien and other Maltese megalithic buildings: its texture was fine and homogeneous, its baking was good, better in fact than the known Neolithic ware.

The pots shown in pl. LXXVI, fig. 3, vary in height from 6.5 cm. ($2\frac{1}{2}$ in.) to 8 cm. ($3\frac{1}{4}$ in.). Two cups have a round bottom, with a mouth 8 cm. wide, a slightly constricted neck gracefully marked with two parallel linear depressions. One has a flat handle which, rising above the rim, curves down and is attached to the body. The second cup, slightly larger than the first, had a similar handle. The third cup is very graceful; it has a longish neck with two linear depressions like the cups, and a globular body. It has no long handle, but not far from the base two tiny rudimentary handles appear at opposite ends; one is a tiny band of clay attached horizontally with a vertical hole in the middle, and the other a pair of small depressions as if an attempt were made to drill a V-shaped hole which, however, does not go deep. Like the other pots, it has a burnished surface of a fleshy tint, but, unlike the others, its whole surface, from the mouth to bottom, is decorated with incised dotted lines in the shape of large lozenges and triangles which, to judge from the parts which have retained the colour, were originally filled with red pigment.

The fourth pot is conical in shape, 8 cm. high, 7 cm. at the mouth, and 4 cm. at the base. On one side it is broken. The everted lip thickens at one point, and this tiny ledge is pierced vertically in the centre; no decoration appears on the body.

A nearly complete skull, four lower jaws, the four pieces of pottery, and a few lumps of red ochre are now shown in the Valletta Museum.

ROCK-TOMB AT NADUR BENJEMMA

Whilst examining the rocky ground of the Tas-Salib road on the Nadur hill at Benjemma (Malta), on 10th November 1926, an opened rock-tomb attracted my attention.

A conical shaft full of debris led to a domed chamber cut in the coralline limestone. No slab covered the entrance. The roughly



Neolithic discoid plates reconstructed from fragments obtained from
the Nadur rock-tomb

circular chamber measured about 6 ft. in diameter, with a maximum height of about 5 ft. This tomb in no way differs from those described as type (1).

The dry red soil that filled the chamber was sifted, when a small sackful of fragments of a very archaic type of pottery was obtained. Fragments of bones were found, but so minute that their examination could lead to no practical conclusion.

On close examination the pottery proved to be of a dark brown colour, and of excellent workmanship; the surface was burnished and decorated with graceful incised patterns on many of the specimens. Although the ware was broken and partly discoloured by exposure to all kinds of weather for centuries, it was possible to reconstruct two discoid plates or flat saucers with a triangular handle, quite typical of the neolithic ware found at Tarxien and the other megalithic sites. The rest of the fragments showed also incised decorations; they could not be put together in such a way as to reconstruct any of the original objects, but many of the bits were large enough to show the nature of the vessel from which they originated; one smooth-surfaced bowl was nearly complete.

The two discoid plates are about 3 mm. thick, with well-rounded rim; they are practically of the same size, about 17 cm. ($6\frac{1}{4}$ in.) in diameter, and slightly concave, with a maximum depth at the centre of 4.5 mm. ($1\frac{3}{4}$ in.). They both had a double triangular handle, but in one of the plates this is broken off at the base.

The colour of the ware is dark brown, but originally they were probably black. In both cases, the convex side is decorated with fine incised lines combined to form a series of comet-like curved triangular patterns within the four quarters, in which the surface is divided by two distinct cross lines (pl. LXXVII). This comet-like pattern is a favourite one in many neolithic vessels, especially at Pergla (Gozo) and at Cordin (Malta).

The reconstructed cup is 5 cm. high with a diameter of 7 cm. at the base and 11.5 cm. at the mouth. It had a flat handle which curved up from the side and was attached to the rim. Both inside and outside, the surface of this pot is smooth and burnished. Its colour is a light reddish brown, but the exposure to the damp soil has, here and there, affected the original tone. The archaic character of this pot is evident, as is also that of the saucers that accompanied it.

The interest of these tombs lies, naturally, in the fact that in neolithic days rock-cut tombs were used in Malta for burials. The circular tombs of the first period can no longer be considered as being of Phoenician origin, but some of them at least are to be considered as pointing to the late Stone Age, about 3,000 B.C.

The pottery obtained from the three tombs described cannot even be compared with any Bronze Age ware obtained so far in Malta, whilst on the other hand its character is frankly neolithic and compares favourably with the neolithic pottery so abundant in the Malta Museum.

It is quite probable that many of these early rock-tombs were cleared of their contents in Phoenician days and used by the later inhabitants ; it is also possible that their contents were never carefully examined, the minute fragments of a previous occupation being completely overlooked.

After the discoveries recently made, future excavators have to be more careful in their researches, and these may lead to the discovery of Stone Age rock-tombs, which may be found to be more common than was originally suspected.

A Chambered Cairn at Allt-nam-Ban, Strathbrora, Sutherland

By W. DOUGLAS SIMPSON, M.A., D.Litt., F.S.A.Scot.,
Local Secretary for Scotland

IN the Sutherlandshire Report of the Royal Commission on the Ancient and Historical Monuments of Scotland (no. 44), under the parish of Clyne, a short description is given of a chambered cairn on the left bank of the Allt-nam-Ban, a small burn which briskly flows into the eastern side of Loch Brora. The description is dated 25 August 1909, and shows very clearly that when Mr. Alexander O. Curle, then secretary of the Commission, surveyed the cairn on that day, it was already in a much dilapidated condition. I visited the cairn on 27 April 1928, and was shocked to find that the whole of its southern half had been carted away for road-metal, exposing the interior construction with all the distinctness of an orange cut in two. As additional information is thus available with regard to the structure of the cairn, and also because the whole monument will probably disappear within a very short time, I made a careful survey of the cairn, and have pleasure in submitting the following description, along with a plan and photographs.

The cairn is situated in a tangled wood of stunted birch, very close to the left bank of the Allt-nam-Ban, and at a distance of some thirty yards back from the right or east side of the road which skirts the shores of lonely Loch Brora.¹ It is a long cairn, lying approximately east and west, and has contained a tripartite central chamber, approached by an entrance gallery from the west. The inner portion of this gallery, with the portal admitting into the chamber, is still in tolerable order. The gallery is here about 2 ft. 7 in. wide; its length, so far as preserved, is about 4 ft. 7 in.; and its height, in its present partly filled-up condition, is between 2 and 3 ft. The south side of the passage is formed of slab-like stones set end-on, while the north side is formed of similar stones set edgewise. Two lintel stones (A and B on plan, fig. 1) still remain in position. Stone A is 4 ft. 6 in. long, 2 ft. broad, and 1 ft. thick. Stone B, which has fallen outward and at present rests partly on stone A, is 4 ft. 8 in. long, 1 ft. 8 in. in greatest breadth, and about 1 ft. 7 in. thick. The two door-posts (C and D) are also in position and undisturbed. Stone C is 3 ft. 6 in. long, 1 ft. 9 in. broad,

¹ The cairn is not marked on the O.S. Map (6 in. Sutherland, Sheet XCVII).

and its height, so far as exposed above the present ground level, is about 2 ft. 6 in. Stone D is of indeterminate length, its back being set in the cairn, from which it projects 2 ft. within the first compartment, being (like the other door-post) flush with the entrance passage. These door-posts reduce the actual portal between them to a width of 2 ft. The lintel B does not directly rest upon the door-posts C and D, an impost stone being introduced in each case.

Westward from the portion still lintelled over, the entry (or at least its south side) is traceable for a further distance of some 23 ft., to what appears approximately to have been the western boundary of the cairn.

The north wall of the first compartment is curved and bee-hived, formed of large flattish stones set edgeways. It measures about 4 ft. in length and is preserved to a varying height of 3 or 4 ft. The south wall of this compartment has been totally removed, but a foundation or kerb-stone fortunately remains *in situ*, fixing the breadth of the compartment at 7 ft. The interior of this compartment is partly filled with small stones, including the fallen capstone E, which measures about 3 ft. 3 in. long by 2 ft. broad.

The second compartment is divided off from the first by the three partition stones F, G, H; F and H being tall upright slabs, and G a narrow post-like stone set with its axis transversely between them. Stone F is 2 ft. 2 in. long, 1 ft. broad, and 3 ft. 3 in. high. It is noticeable that whereas all the other large stones in the cairn are composed of breccia or conglomerate, this stone F is a close-grained dark red sandstone. Stone G is 1 ft. 3 in. long, 7 in. broad, and 3 ft. high: stone H is 2 ft. 6 in. long, 1 ft. broad, and 3 ft. 6 in. high. This stone on its west side rests partly on a transverse foundation stone; it is evident that the original floor of the chamber must be at a distance of several inches at least below the present level.

At its base the north wall of the second compartment consists of two stones set anglewise: above, it is formed more irregularly of large stones, the beehive construction being distinctly in evidence. The length of this chamber is 4 ft. 6 in.: the present height of its north wall about 4 ft. Its interior is fairly clear of fallen stones, though encumbered by a large tree-root.

The partition between the second and third compartments appears to have been formed by two slabs, of which only the northern (stone I) remains. It is 3 ft. long, about 1 ft. broad, and 2 ft. 8 in. in present height. The third compartment has been 5 ft. long: its north wall has collapsed into the interior. The large capstone J, precariously poised, measures 4 ft. long,

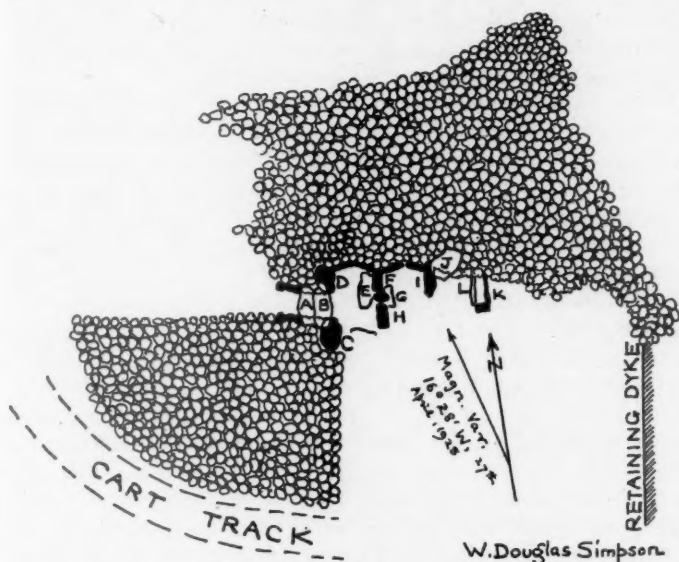


FIG. 1. Exterior view of entrance



FIG. 2. General view from S., showing remains of chambers exposed
Chambered cairn at Allt-nam-Ban, Strathbrora

2 ft. 8 in. broad, and 6 in. thick. The east end of this compartment is closed in by one large stone K, measuring 4 ft. long, 2 ft. high, and 1 ft. 6 in. broad. On its top, supported by pinnings, now rests the capstone L, measuring 3 ft. long, 1 ft. 6 in. broad, and 5 in. thick; but this seems to be a modern arrangement, designed to provide a seat for the roadmen who are quarrying the



W. Douglas Simpson.

FIG. 1. Plan of Chambered Cairn at Allt-nam-Ban, Strathbrora, Sutherland.

cairn away—I noticed another such artificial seat in the second compartment, and several fire-stances were also visible, while a quantity of charred wood lying about clearly showed the use which had been made of the compartments in the cairn as a lunch-time shelter for the roadmakers.

Behind stone K the dilapidated cairn-structure extends eastward for some 18 ft. The total length of the cairn has been about 66 ft.: its axis is aligned at 116° E. magnetic north.¹ From the north wall of the chamber the distance to the north outer limit of the cairn is about 20 ft., which, assuming the chamber to have been set centrally, would give a total breadth for the cairn of about 47 ft. The distance along the quarried face of the cairn, from

¹ The magnetic variation at the date of my visit has been extracted for me by the Director-General of the Ordnance Survey. It was $16^{\circ} 28' W.$, decreasing annually $0^{\circ} 12'$ (not constant).

the door-post to the southern margin, is about 17 ft. At its highest point, at the north-east corner, the cairn-structure survives to a height of about 6 ft. Running out northwards from the back end of the chamber a spread-out of stones extends for some 30 ft. It is just possible that this may be the remains of a horn ; but the cairn is so dilapidated that it would be hazardous to venture a more definite opinion on this point. The whole cairn is now overgrown with moss and small birches. Immediately to the north and to the north-east are two other large accumulations of stones, similarly overgrown, which may perhaps also be cairns.

At the date of my visit there was every appearance that the removal of the south side of the cairn had taken place quite recently. A comparatively fresh cart track led into the cairn from the road : a heap of road metal by the roadside, and an abundance of chipped fragments within and around the cairn itself, revealed all too clearly the lamentable use to which the stones of the cairn are being put.

Although this cairn may be described as a long cairn, in that its length is distinctly in excess of its breadth, it obviously does not belong to the group of great chambered long cairns of Caithness and Sutherland, which reach a length sometimes of 250 ft. The Allt-nam-Ban cairn must be classed rather with the group of chambered round cairns, in which a diameter of about 60 ft. is very usual. In several other cases the outline of such cairns is oval rather than round : for example, the chambered cairn at Achany in the parish of Lairg, the dimensions of which are given in the Ancient Monuments Commission Report on Sutherland (no. 477) as 69 ft. by 36 ft. In this case, however, the chamber is set at right angles to the long axis of the cairn.

Anglo-Saxon Sundials

By ARTHUR ROBERT GREEN, M.R.C.S., L.R.C.P.

[Read 3rd November 1927]

SUNDIALS belonging to the Anglo-Saxon period have not received much attention from archaeologists, and a complete list of all existing specimens should be of some value; indeed, Professor Baldwin Brown in *The Arts in Early England*, vol. ii, 1925, says 'a full list of existing Saxon sundials . . . is a desideratum'.

No apology is therefore needed for the subject of this paper, but although I have been diligently seeking for dials for a considerable number of years in many counties, I am unable to state positively that every existing dial has been found; still I feel that a sufficient number has been observed to make the publication a matter of some interest. Many dials, which are stated in guide-books to be of Saxon date, have been visited and examined, with the result that the information has been found to be incorrect. It would indeed appear that some writers do not differentiate between the ordinary and comparatively common incised dial or Mass-clock and the much rarer Saxon sundial. This perhaps is scarcely to be wondered at, for, so far as I am aware, the Saxon sundial has never been described in detail, nor have the differences between it and the Mass-clock been fully pointed out. Very little has been written on the subject, but fifty years ago the late Rev. Daniel Henry Haigh published a paper on 'Yorkshire Dials' in *The Yorkshire Archaeological and Topographical Journal*. This is the classical work on the subject, but research in recent years has shown that many of the statements contained therein are erroneous and many of the conclusions can no longer be entertained.

On the other hand, some of the illustrations of dials and especially of the inscriptions on them, are invaluable, because in several instances further exposure to the elements during the last half-century has made the accurate deciphering of them impossible, and in these the readings given by Haigh are of great assistance.

Vertical dials, such as are or were originally placed on the south wall of a church or other structure, are the only class under consideration in this paper; the horizontal dials, if any such existed in the Anglo-Saxon period (and it is quite possible that they did) are only mentioned for the sake of the argument, and the

later dials, those made after the Conquest, are also not here under consideration. Nevertheless, these later dials, which for the purpose of distinguishing them are here called by the general term 'Mass-clocks', because one of their chief duties was to mark the time of Mass, will often have to be mentioned.

I propose to begin by describing the general appearance and function of the Anglo-Saxon sundial, then its characteristics and the systems of time-measurement in use during the period. The differences between the Saxon dial and the Mass-clock will then be discussed, but the greater part of the paper will be devoted to the examination of individual dials.

THE GENERAL APPEARANCE AND FUNCTION OF THE ANGLO-SAXON SUNDIAL

The Anglo-Saxon sundial was built into the south wall of a church, or of some other structure, such, for instance, as a church-yard cross, and if the church was correctly orientated it faced due south. Its function was to tell the time, the sun-time of course, which differs from the watch or Greenwich time—the artificial method of reckoning in use nowadays. The dial consists of a style-hole in the centre, a circle or half-circle forming the circumference and a series of radiating lines which, starting from the style-hole, extend to the circumference. The style-hole contained originally the end of the style or gnomon which projected from the face of the dial and pointed towards the south. It was the shadow of the gnomon in the sunlight, passing over the radiating lines on the dial-face, which marked the time from sunrise to sunset. No original gnomon is now in existence. The lines, which vary in number, are generally incised, but dials having lines in relief are occasionally met with. The circumference is generally formed by two incised lines, or the whole circle or half-circle may be carved in relief, or again the whole surface of the dial may be sunk within its own circumference.

The Anglo-Saxon sundial was used as a time-marker, and that it could be made efficient in this respect by suitable alterations of the gnomon has been demonstrated in my book on Sundials.¹ It is only necessary to observe here that, owing to the distance from the ground at which they seem to have been situated, making changes of the gnomon difficult, it is doubtful if the Saxon dials were in general use except in the summer months.

¹ *Sundials, incised dials or Mass-clocks*, S.P.C.K., 1926.

GENERAL CHARACTERISTICS, ETC.

Saxon sundials differ in size and in shape, and in many of their details, but, notwithstanding these differences, to the trained eye they are generally unmistakable. There are certain characteristics

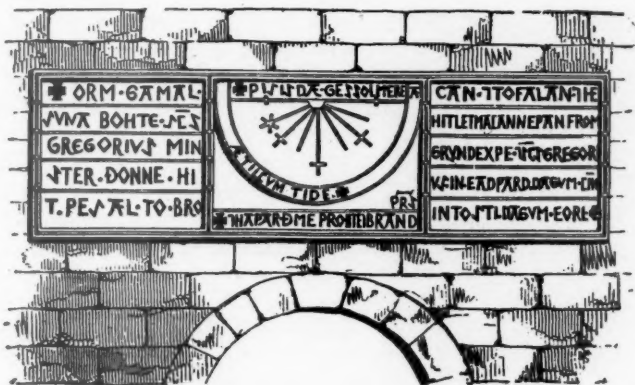


FIG. 1. Typical Anglo-Saxon dial, Kirkdale, Yorks.

by which they may be recognized, but these are seldom all present in any one dial.

The typical Saxon dial (fig. 1) is a distinct piece of sculpture, and in this it differs markedly from the ordinary Mass-clock which is, as a rule, made up of a collection of incised lines and a style-hole. The workmanship is also much better, for whereas the Saxon dial seems generally to bear the mark of the professional, the Mass-clock often betrays the hand of the amateur.¹

An early dial bearing an inscription is generally, perhaps one ought to say always, of Saxon date, and if the words and letters comprising it are Saxon its provenance is obvious. Saxon dials often have some part of the dial itself or of the stone on which it is placed carved in relief; for instance, the dial at Escombe, which has a serpent carved round its upper part; and the dials at Corhampton and Barnack which are ornamented with foliage in relief. In some instances the whole dial projects from the stone round it as at Great Edston, and in others the radiating lines are in relief as at Hart, while other dials, such as those at Warnford and

¹ There is never more than one Saxon dial on a church, but Mass-clocks are often duplicated, and I have seen as many as eight incised on one buttress.

Staindrop, show the circle or half-circle at the circumference standing out from the surface of the stone. This relief-carving, when it is present, is a very certain sign of Saxon origin, for it is unknown or at least very rare in the Mass-clock.

In shape the Saxon dial is invariably either a complete circle or most commonly the lower half of a circle, and in this respect it differs from the Mass-clock, which is often only the quarter of a circle and sometimes consists of only two or three lines and exceptionally of one line only. If a circumferential line is present it is generally single in the Mass-clock and double in the Saxon dial, but the Mass-clock often has no containing line at the circumference at all, whereas the Saxon dial is always so circumscribed. The Saxon sundial, if *in situ*, is generally placed at a greater distance from the ground than the Mass-clock.



FIG. 2. Mass-clock or incised dial at Stoke Charity, Hants.

I have already mentioned that it is somewhat unusual for the Saxon dial to exhibit a complete circle, generally the lower half only is present, but if there is a complete circle the upper half is almost always de-

void of radiating lines. On the other hand, Mass-clocks with complete circles are quite common and usually show lines in both the upper and lower halves (fig. 2).

Mass-clocks frequently have holes at the end of their lines, and sometimes holes are used to take the place of one or more lines, and there are Mass-clocks which have no lines at all, their places being taken by a series of holes arranged in a circle at the circumference. Such a dial as the latter is never found in the Saxon period, but very occasionally a Saxon dial may be found to have a hole placed at the end of some of its lines, as at Bishopstone. Again, the lines on a Saxon dial are, notwithstanding their greater age, usually all present, that is none of them, as is quite commonly the case with Mass-clocks, is missing, either because they have never been cut or through the shallowness of the incisions and the effects of exposure. Finally, as a special characteristic, there is one point on a Saxon dial which is often particularly stressed and to which the name *dæg-mæl* has been given. It is the point which marked a most important time in the Anglo-Saxon period—the beginning

of the first tide of the day, and it seems probable, to judge from its frequent appearance on pre-Conquest church dials, that an important church service was held at this time. It corresponds to our 7.30 A.M. and this was also the usual hour for the Anglo-Saxons to partake of breakfast. The word *dæg* means 'day' and *mæl* is a mark or point, and *dæg-mæl* usually means merely 'the dial' as 'the day-dial' or 'the day-marker', but it also stands for a fixed time as 'day-time'. This line on a Saxon dial marking 7.30 A.M. sometimes has a special mark on it: for instance, a St. Andrew's cross or Swastika, or in some other manner this point in the day is clearly differentiated, and as this is a distinctly Saxon feature it is of great value in determining the early date of the dial.

SYSTEMS OF TIME-MEASUREMENT

The Anglo-Saxons are generally supposed to have reckoned time on the octaval system which divides the 24 hours into eight parts or tides, each tide thus measuring three of our hours, and it may be stated as a fact that, with one exception, every Saxon dial known to us at the present time, provided the lines on it are visible, shows evidence of this system. The dial at Old Byland (fig. 18) is the one exception.

The dial at Warnford (fig. 6) shows this system in its simplest form. Here in the lower half of a circle are five lines set at equal distances apart, each marked with a cross-bar at a point near the circumference. According to our method of reckoning time these lines mark 6 a.m., 9 a.m., noon, 3 p.m., and 6 p.m., but the Anglo-Saxons called each of these three-hourly intervals a tide.¹ Now when we are speaking of Saxon tides and present-day hours it is important to understand that the methods of marking are quite different. XII on a present-day clock marks noon, but it is set at the beginning of the hour from 12 to 1, but the corresponding point on a Saxon dial marks the middle of the Saxon noon-day tide, which extended from 10.30 a.m. to 1.30 p.m.

A variant of this method of time-marking is to be seen on the dial at Kirkdale, where, in addition to the five primary crossed lines, there are secondary lines dividing each tide into two equal parts. These secondary lines show no cross-bars and it should be remarked that each marks the beginning of a tide, and the distance between each line on this dial measures a period of time equal to

¹ The word 'tide' in Old English meant 'time' and it was not till long after the Conquest that it was applied to the periodical rise and fall of the sea.

an hour and a half. According to our method the lines here mark 6 a.m., 7.30, 9, 10.30, 12, 1.30 p.m., 3, 4.30, and 6 p.m.

There is still a third method of dividing the tides which is found on some Saxon dials. In this the portion between the primary lines is divided into three equal parts, each of these showing a division of time equal to one of our hours. The dial on the Bewcastle cross shows this well, and here each primary line is not only much more deeply cut than the secondary divisions but also shows a cross-bar at the extremity. This duodecimal system of dividing the day from 6 a.m. to 6 p.m. into twelve equal hours, it should be noted, was the system in vogue amongst the Romans on the Continent and was evidently brought by them to this island, its use being continued to a certain extent throughout the Anglo-Saxon period, at the end of which it was re-introduced by the Normans, with whom it was the usual system.

It will thus be seen that the octaval and duodecimal systems were in force, side by side, in this country during the Anglo-Saxon period, the purely Saxon portion of the inhabitants perhaps preferring their system of tides, while the Romano-British clung to their old system of dividing the day into twelve hours, and it may be observed that the Bewcastle dial would serve equally well to measure the time according to either system.

The Mass clock, on the other hand, generally has its lines so placed as to mark the time on the duodecimal system, and cross-bars, although they are sometimes present, are rare, and whereas on the Saxon dial lines marking bi-hourly intervals only are never found, quite a number of Mass-clocks show this peculiarity.

Numerous dials can be found which, if the position of the lines only is taken into account, are quite impossible to label definitely as Saxon or as Mass-clocks, and in such cases the other characteristics have to be carefully considered.

SOME CHRONOLOGICAL CONSIDERATIONS

A few words must now be said on the chronology of the dials we are considering. Up to the present I have spoken of them under the general title of Anglo-Saxon dials, but this must now be understood to include dials constructed, in some cases, perhaps fifty years after the Conquest. The 'Saxo-Norman overlap', as Professor Baldwin Brown calls it, is a well-substantiated fact as applied to the general structure of churches, and, as we shall see, the same overlapping occurs and can be demonstrated in connexion with these time-markers. In several instances dials are to be found, apparently *in situ*, which are clearly the work of Saxon

masons, and yet they are fixed into the wall of what is evidently a Norman church, and its date can sometimes be shown to be post-Conquest. Here then we have the two masons, the Saxon and the Norman, working side by side on the same building, but it is the Saxon mason alone who undertakes the construction of the dial, and although it was carved after the Conquest it would be as obviously unfair as it would be incorrect to label it Norman.

TOPOGRAPHICAL LIST

Roman sundial from Borcovicus (Housesteads); Chesters Museum

The dial is unfortunately shown in the Museum in a reversed position. It should of course have its straight edge, which now rests on the plinth, uppermost, and it is in this, its correct position, that we will examine it.

The portion of the dial now remaining consists of part of a style-hole and five deeply cut, wide lines radiating downwards, the extremities being contained in a circular line. The upper edge of the stone, which may be taken to form another line, is not now visible, being covered by a thick layer of cement, with which it is fixed to the plinth. We may reasonably assume that we have here rather less than half a dial which before it was broken consisted of a half-circle and thirteen lines, and was thus constructed on the duodecimal system to mark the hours from 6 a.m. to 6 p.m. That it is Roman there seems no reason to doubt: its place of origin points to this, and the method of time-marking is distinctly Roman and was in constant use throughout the Empire. If this be accepted it follows that it is the oldest perpendicular dial which has so far been found in England.

That the Romans of the British occupation were acquainted with dials is shown by the representation of a horizontal dial on a mosaic pavement at Brading in the Isle of Wight.

The Bewcastle Dial

The dial on Bewcastle Cross in Cumberland, which Professor Baldwin Brown dates about 675 A.D. is probably the most ancient Anglo-Saxon dial which has come down to us.

It consists of the lower half of a circle, a style-hole, and thirteen radiating lines. Three of these are marked with cross-bars and are wide, V-shaped in section and deeply cut, and divide the day into tides. Each tide is subdivided into three parts by two fine incised lines, the whole day from 6 a.m. to 6 p.m. being thus marked out

into hours. Here we see the two systems of time-measurement, the octaval and the duodecimal, combined on one dial.

This dial, which is carved on the beautiful churchyard cross, is the only Saxon perpendicular dial with which I am acquainted that

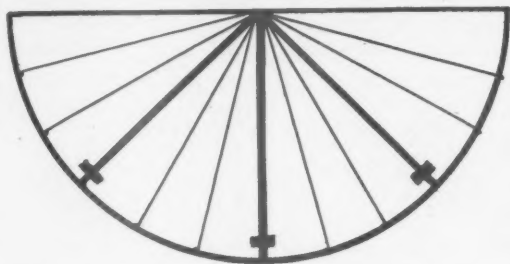


FIG. 3. Dial on the Bewcastle Cross.

is not part of the fabric of a church or may be presumed to have been so originally.

Escombe, Co. Durham

The unique and practically untouched church of Escombe dates, according to Professor Baldwin Brown, from the latter half of the seventh century. The dial is situated on the south wall of the nave at about an equal distance from the east and west angles. It is at a very considerable height from the ground, but I was able by the aid of a long ladder to examine it at close quarters.



FIG. 4. Dial at Escombe.

It is carved on a stone, the peculiar shape of which is well seen in the photograph. Consisting of rather more than the lower half of a circle, the upper part and the sides of the dial are encircled by a conventional serpent, carved in

relief. The whole dial is also in relief, and at the circumference is a raised ornamental border which resembles the plait of a woman's hair and, as Professor Baldwin Brown very truly remarks, is just like the ornament on the top of the arms of the famous pre-Conquest Frith-stool at Hexham. The same ornament originally covered the serpent's body, but is not now visible to the same extent. The style-hole is square, admits the end of the first finger,

and is coated inside with lead, a rim of which projects all round the opening. Close at hand three lines can be plainly seen, the middle, perpendicular line being marked by a cross-bar. There are no horizontal lines at the top, but it is quite clear that the intention of the maker was to divide the day into the four usual Saxon tides. The dial measures 19 in. from side to side at the top and the perpendicular noon-line is $9\frac{1}{2}$ in. long. The aspect is about S. 9° E.

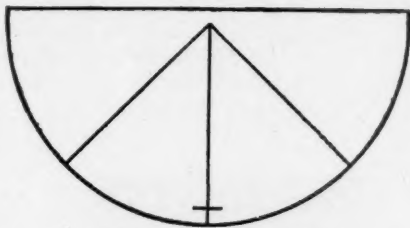


FIG. 5. Diagram of dial at Escombe Church.

This dial may be considered one of the oldest now extant and appears to be *in situ*, but the projecting stone above it is more doubtful. There is a beast's head carved on it, similar to those to be seen at Deerhurst, and this rather suggests the Viking period. The two stones above it have parts cut away to admit it, so that it may be, though is not necessarily, an insertion.

Warnford, Hampshire

Warnford church is situated in the Meon valley, the district occupied by the Meonwaras, which was evangelized by Saint Wilfrid, 681 A.D. The church was rebuilt in the twelfth century by Adam de Port, but it was originally founded by Saint Wilfrid, and these facts are recorded in two inscriptions still to be seen on the church.

The dial is now built into the wall over the south doorway, under a later porch, and was accepted by the late J. Romilly Allen as a relic of Wilfrid's church, being preserved no doubt at the rebuilding in the twelfth-century and transferred to its present position. It consists of a style-hole, a complete circle in relief, and five lines, all in the lower half, the whole being carved on a square stone, the corners of which are decorated with an ornament resembling the fleur-de-lis. The lines are crossed at the ends and divide the day into the usual Saxon tides. The angles formed by the lines are very accurate.

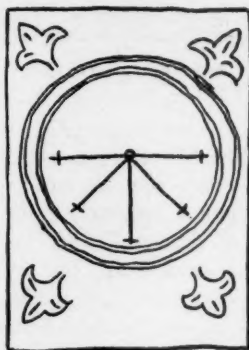


FIG. 6. Dial at Warnford.

Corhampton, Hampshire

Corhampton is a nearly perfect example of a late Saxon church, and may be dated early in the eleventh century.

The dial is in its original position in the south wall of the nave, but it may nevertheless have belonged to a former church, and Haigh considered that it dated from Saint Wilfrid's time, for Corhampton, like Warnford, is in the Meon valley. It is larger



FIG. 7. Dial at Corhampton.

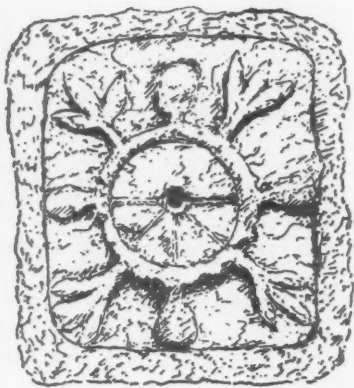


FIG. 8. Dial at Corhampton.

and more elaborate, but in other respects similar to the Warnford dial, but whereas the latter has been protected by the porch over it, here the dial has been constantly exposed to the elements and has consequently suffered some decay. It consists of a style-hole and four radiating lines incised within two concentric circles at the circumference, the whole dial being carved in relief on a large stone with a projection of quite an inch. The ornaments are somewhat elaborate and consist of conventional foliage of three leaves at each corner and between each there is a long round-ended projecting ornament or lug, all being carved in relief. The design and workmanship are excellent and its foliage should be compared with that on the dial at Barnack and with that on the two other Hampshire dials at Warnford and Winchester. In its upper half no lines can be seen, but the lower half is evidently divided into the usual tides, the middle line, however, being missing, as the

stone here and also on the dexter side is much worn. The two lines on the sinister side retain their cross-bars.

Winchester, S. Michael's Church

This church possesses a Saxon dial which is built into the south wall at a considerable height from the ground, but it is not *in situ*, as the church was rebuilt in 1822. It is impossible to photograph it on account of the adjacent buildings.

The dial is carved out of a square stone and consists of a style-hole and eleven radiating lines contained within a double circle with a fleur-de-lis carved in each corner. There are five lines marking the middle of the tides, each portion being halved on the sinister side, but divided into three on the dexter side. Thus the whole dial shows the octaval system of time-marking, but on the dexter side the hours from 6 a.m. to noon are shown in addition, that part therefore following the duodecimal system. Three of the lines have cross-bars, but whereas the mid-morning and the noon-lines are crossed, it is the line above the mid-afternoon line which is crossed on the sinister side. Haigh imagines this may be due to a mistake on the part of the maker of the dial who possibly counted three spaces on each side of the middle line and made the cross unthinkingly.



FIG. 9. Dial, St. Michael's, Winchester.

The three Hampshire dials, Warnford, Corhampton, and Winchester, are so alike in design, workmanship, and ornamentation that a common date may be assigned to them, and if the Warnford dial originally belonged to S. Wilfrid's church they must all be dated late in the seventh or early in the eighth century.

S. Cuthbert's, Darlington, Co. Durham

The church of S. Cuthbert, as it now stands, was designed and largely built by Bishop Puiset between the years 1192 and 1195, but preserved in an aumbry in the north transept is a thick slab of red sandstone with two dials incised on it, one on the front, the other on the back. From their size, their sculptural character, and especially from the way in which the circle is divided into eight tides, both these dials must be considered as undoubtedly the work of a Saxon mason.

Dial no. 1.

This consists of a style-hole, eight radiating lines, and six concentric circles. All the lines are wide and somewhat deeply incised, but there is no part of the dial carved in relief. The diameter of the third circle at which the lines end is 11 in. and the dial from the top to the bottom of the outer circle measures 16 in. In the outer circle are vague indications of what may have been an inscription. The mark in the lower part on the dexter side of the perpendicular line is now nothing more than a depression, but probably it is intended for the *dæg-mæl*; if that is so, it is wrongly placed, for in a perpendicular dial it should be below the dexter horizontal line.

Dial no. 2 (fig. 10).

This consists of a style-hole, eight radiating lines, and eight concentric circles. The lines divide the circle into eight tides as in Dial no. 1. All the incisions forming the lines and circles are thin and not deeply cut, but the dial as a whole is plainly visible. No part of the dial is carved in relief.

The measurement from side to side to the ends of the lines is $11\frac{1}{4}$ in., and from the top to the bottom of the outer circle $21\frac{1}{2}$ in. The dial as it now stands has a curious mark in the space below the horizontal line on the dexter side. Here there are two lines side by side, which are continued at their outer ends into the lines of the dial above and below. This mark is in the correct position for the *dæg-mæl* on a perpendicular dial.



FIG. 10. S. Cuthbert's, Darlington.
Dial no. 2.

The problem presented by these two dials would take too long to discuss, but the conclusion I have come to is that the mason, when he carved Dial no. 1, made a mistake and placed the *dæg-mæl* in the wrong position, and the rectangular shape of the stone made it impossible for him to rectify his error by turning it round. The easiest way out of the difficulty was to turn the stone over and carve a correct dial on the other side. In other words, Dial no. 1, with the six circles, is an abortive attempt, and Dial no. 2,

with the eight circles, was carved as a correction, and was the one used.

Castle Froome, Herefordshire

The church of Castle Froome is generally considered to be of Norman origin, but its remarkable, massive font is enriched with many curious carvings, and the interlaced work which encircles it seems to preserve traditions of Celtic art.

There are, in addition, two features to be observed which are distinctly Saxon and would seem to give the church a place among the churches of the Saxo-Norman overlap. The west front exhibits a horizontal string-course, and rising from this is a vertical pilaster-strip, running up to the point of the gable. A pilaster-strip in a similar position is to be seen in the little Saxon church of Boarhunt in Hampshire, where it occurs on the east gable, and a drawing published by C. L. R. Tudor in 1821 shows an exactly similar pilaster on the west front of Kirkdale church, Yorkshire, where the modern west tower is now to be seen.¹

The second Saxon feature is the sundial, which is situated over the south doorway and is very difficult to examine as it is obscured by the gable of a later porch. It is carved in relief and is composed of a half-circle enclosed within the usual double concentric lines; it is divided by three lines marking the tides, and on the dexter side there is an additional line. This dial is not mentioned in any of the guide-books nor, so far as I am aware, in any description of the church.

Barnack, Northamptonshire

The church dates from the latter part of the tenth century.

The dial is on the first stage of the tower and about 25 ft. from the ground. The stone on which it is carved is roughly circular, and projects from the face of the wall, and the dial itself is circular, the lower half being flat and plain, while in the upper part the stone is cut away leaving three leaves and a circular line round the edge in strong relief. The foliage may be compared with that on the three Hampshire dials, which it closely resembles. The position of the style-hole is marked by

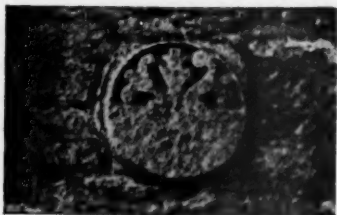


FIG. 11. Dial at Barnack.

¹ *The Arts of Early England*, ii, 308.

a very small hole, and any lines which may formerly have been present are now obliterated.

Saintbury, Gloucestershire

This dial is illustrated in Dom Ethelbert Horne's book, *Primitive Sun Dials*, and I am indebted to him for the photographs of this and the Lullington dial to be next described. The dial is not *in situ* but has been inserted into the wall above an early South Norman doorway, now blocked, and it measures 18 in. in diameter. The primary lines marking the tides are carved in relief, and in the lower half of the circle there are four secondary incised lines marking the beginnings and endings of the tides.

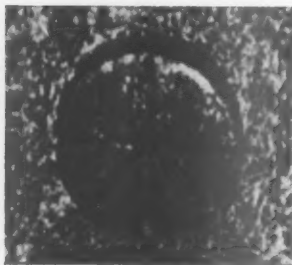


FIG. 12. Dial at Saintbury.

Lullington, Somerset

The dial is on a quoin at the south-west corner of the south transept, and is not in its original position, for this transept is a modern erection. The dial is about 10 in. in diameter and the lower half of the circle shows five crossed lines marking the middle of the tides, while two uncrossed lines mark the beginnings and endings of the tides. The five crossed lines marking the tides and the two secondary lines are distinctly Saxon features, but in other respects this dial more resembles a



FIG. 13. Dial at Lullington.

Mass-clock than any other dial described in this paper.

Anglo-Saxon remains are unknown, or at least have been very rarely found, in the extreme west of England, and this is the most westerly dial with which I am acquainted.

Arreton, Isle of Wight

The nave of this church dates from the first half of the tenth century, but late in the thirteenth century the east end and south chapel were reconstructed, and on the exterior of the latter is an inserted stone. This stone is roughly circular in shape and projects from the surrounding wall. It is much damaged from exposure to the elements, and the only notable part is a round hole in the centre which may have been intended to contain a gnomon. The stone bears a certain resemblance to the dial at Stoke D'Abernon, but no lines can be seen, and all that can be said about it is that it might be the remains of a Saxon sundial.

Daglingworth, Gloucestershire

The church of Holy Cross, Daglingworth, possesses an Anglo-Saxon dial in an excellent state of preservation. Professor Baldwin Brown considers this church dates from the early part or middle of the eleventh century. Protected by a later porch, the dial is situated over the south doorway and is carved upon a square stone. It has a circle carved in relief, but is quite devoid of ornamentation. The upper half is plain, but the lower half is divided by three crossed lines into four equal portions or tides, and on the dexter side the upper quadrant is halved by an additional line which has no cross. The last line marks the position of the *dæg-mæl*.

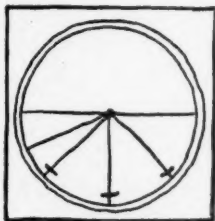


FIG. 14. Dial at Daglingworth.

Hart, Co. Durham

The church of Hart, the mother-church of Hartlepool, belongs to the early Saxon period. Professor Baldwin Brown thinks it may date from the eighth century.

The dial is now inside the church, built into the west wall of the south aisle. A piece is broken away from the top on the dexter side and from here a crack extends from the top to the bottom of the stone, which has been repaired with black cement, and all that side of the dial has been discoloured by it.



FIG. 15. Dial at Hart.

A fragment of stone ornamented with billet moulding is to be seen immediately above the broken piece.

The dial consists of rather more than the lower half of a circle and is composed of a style-hole, a semicircular containing-line, and nine radiating lines. All the lines are thick and carved in relief, and they divide the dial into four parts, each of which is again halved. The beginning, the middle, and the end of the Saxon tides are marked. The measurement across the top is $15\frac{1}{2}$ in.

Wharram-le-Street, Yorkshire, E.R.

The church is an illustration of the Saxo-Norman overlap, being built perhaps 40 years after the Conquest, and Mr. John Bilson, in a paper in *Archaeologia*, vol. lxxiii, compares the architecture to that of St. Rule's, St. Andrews, and thinks that the same mason may have built both.

The dial is in about the middle of the south wall of the tower, at a height of about 15 ft. It is a distinct piece of sculpture and consists of rather more than half a circle, a style-hole, and at least two lines. Unfortunately the stone is broken away in the middle, but the upper and lower part of the fracture on the dexter side probably represent portions of two other lines. The upper line on the sinister side seems also present in parts and the intention of the maker seems to have been to mark the tides and the half-tides.

Stoke D'Abernon, Surrey

Parts of the church here are of pre-Conquest date and are stated by Professor Baldwin Brown to belong to the latter part of the eighth century.

The dial is over the south doorway in the wall of the nave, which is built of small flints and some Roman bricks. It is incised on the face of a cylinder which is carved out of, and projects 6 in. from, a rectangular piece of stone. The projecting cylinder is much broken away at the lower part, and before this happened the dial was probably circular in shape. There are no lines in the upper half, but below there are nine lines radiating from the style-hole, five of which mark the four tides, and each tide is halved by four other lines.

Leake, Yorkshire, N.R.

The church at Leake possesses, inserted into the south wall of the south aisle, which dates from *c.* 1300, two rectangular carved stones which have evidently been preserved from a former church or churches, and although they are now in juxtaposition they are

composed of totally different material and are probably of distinct dates. The one is a carving, contained within a medallion, of a beast apparently feeding upon foliage, and this may be assigned to the twelfth century. Carved on the other stone is a Saxon sundial which consists of a half-circle in relief and a large style-hole which contains a piece of iron, possibly the remains of the original gnomon. The surface of the dial is much worn, but portions of several lines are visible, and in the upper dexter corner is the letter

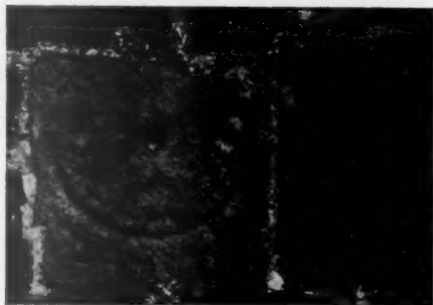


FIG. 16. Dial at Leake.

A, perhaps part of an inscription. This dial cannot be dated later than the eleventh century and it might possibly be much earlier.

There is another sundial on this church, which will be referred to subsequently.

Staindrop, Co. Durham

The original church of Staindrop, some portions of which remain, dates from pre-Conquest times.

The dial, which is inverted and not in its original position, is built into the east wall of the nave, above the chancel arch. Only about two-thirds of the dial remain, or if the other third has not been cut away it is hidden by the north wall of the nave. It consists of a style-hole and three incised lines radiating downwards, the middle perpendicular line having a cross-bar near its extremity, the whole being contained in a semicircular line carved in relief. There are no horizontal lines at the upper part, but the division of the day into the usual Saxon tides is quite evident.

DIALS WITH INSCRIPTIONS

The next six dials are grouped together because each has an inscription carved on it. I hoped that some assistance might be obtained from the shape of the letters in these inscriptions in fixing

the chronology of the dials, but in this I have been disappointed. There does not seem to be any recognized authority on this subject, and experts on the language either will not trust themselves to give an opinion, or express a doubt as to such a thing being possible. As to the language and the translations, I wish to thank Professor H. M. Chadwick, Professor of Anglo-Saxon at Cambridge, who has given me much valuable assistance.

As evidence of the difficulty of the subject I will quote from one of his letters :

‘I fear I cannot give you much help with these inscriptions. The language of Yorkshire at this time offers many difficulties. After the Scandinavian conquest of the country about 875, the upper class was evidently Scandinavian, and when they came after a time to speak English, their language seems to have been very much mixed. The difficulty is increased by the fact that the language of the north of England generally at this time is not very well known. Even in the parts which were least affected by the Scandinavian invasion it appears to have been curiously irregular. Almost all the personal names in your Yorkshire inscriptions are Scandinavian.’

Kirkdale, Yorkshire, N.R.

The dial on the romantically situated church at Kirkdale has often been described and illustrated, but for the sake of completeness a short description is included in this paper (see also fig. 1).

The Kirkdale dial is in a wonderful state of preservation and is the best example of an Anglo-Saxon dial which has come down to us. The stone on which it and the inscriptions are carved is 7 ft. long by 2 ft. high and is now set into the wall over the south doorway, under a later porch. Practically all the characteristics of a dial of the period are present ; it is a distinct piece of sculpture, with a portion carved in relief, and the system of time-measurement as shown by the lines is distinctly Saxon, in that the tides and half-tides are all clearly marked and in addition each of the primary lines is marked by a cross-bar. I wish particularly to draw attention to the *dæg-mæl* on the second line on the dexter side, which has a peculiar mark on it, in shape like a St. Andrew's cross.

The inscriptions are in Anglo-Saxon and the shorter may be translated : ‘This is the day's sun-marking at every tide’, ‘and Hawarth me wrought and Brand, priests.’

The long inscription may be translated :

‘Orm Gamal's son bought Saint Gregory's minster (or church) when it was all broken and fallen down and he caused it to be

made new from the ground, to Christ and Saint Gregory, in Edward's days the king, in Tosti's days the earl.'

Orm, Edward the Confessor, and Tosti are well-known historical personages, and Tosti, the younger brother of Harold, was made Earl of Northumbria in 1056. He was slain September 25, 1066, at Stamford Bridge, so the date of the church and the dial must



FIG. 17. Dial at Kirkdale.

fall within the limits of those ten years and may be considered to be c. 1064.

Old Byland, Yorkshire, N.R.

There are no pre-Conquest remains at Old Byland church with the exception of the dial, which is carved on a stone now used as a quoin in the south-east corner of the tower, a comparatively late structure. The dial is fixed in a reversed position. It consists of a half-circle with a double line round the circumference and a key-pattern ornament between the lines. There is a horizontal line on each side at the top, and below, on the sinister side, another parallel line. An inscription is carved above the top and continued between the two parallel lines. In addition, there are seven lines radiating downwards. A close examination of the dial discloses some very interesting peculiarities: it is divided on a decimal system into five equal parts by four primary lines, each having a cross-bar at its end. Most of these five divisions are halved by other lines, generally not extending to the style-hole and not having a cross-bar; but one of them, the perpendicular noon-line, is well marked and has the cross at its end. This is the only pre-Conquest dial, so far as I am aware, which shows a decimal system of time-measurement. This dial, although it differs in its

construction from all the others, still has carved on it that eminently Saxon peculiarity, the *dæg-mæl*. We will now examine the inscription which Haigh found difficult to read in 1846 and which is now quite undecipherable in parts. Fortunately Haigh gives a reading, which he obtained from a cast, as follows:

★2VMARLEDAN·HV2CARL·ME FEGIT

Professor Chadwick has 'little doubt that *Sumar leðan* is the genitive or dative of the Scandinavian proper name *Sumarliði*, anglicized, though it is curious that the ending *-an* belongs only to the south and midlands and not to the north. Perhaps the engraver had learnt his English in the south.' '*Huscarl* is a Scandinavian word meaning "member of the retinue of a prince"; but it may be a personal name here.' Both occur as personal names amongst the Danish mints in the north of England.

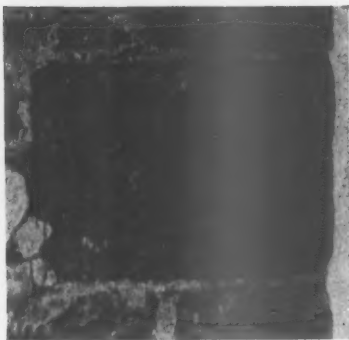


FIG. 18. Dial at Old Byland.

The inscription may therefore be translated

'A member of Sumarlethi's retinue made me'

or 'Huscarl made me for Sumarlethi'.

Bishopstone, Sussex

Considerable portions of the nave walls of the church at Bishopstone are of Saxon workmanship, but it is chiefly notable as retaining the most imposing lateral Saxon porch now extant, and it is on the south aspect of this, and over the apex of the small Norman secondary porch, that the Saxon sundial is fixed. The church may be comparatively early and is considered by Professor Baldwin Brown as belonging to either the first half or the last half of the tenth century.

The dial is a somewhat elaborate example, carved on a stone, under an arch composed of incised lines. The sides of this arch widen below and end in a rather indefinite manner. Below the dial there are circular lines which join the arch on each side and in this way the dial may be considered to be contained in a complete but not very true circle. Faint traces of a fret pattern, in low relief, may also be seen carved round the upper part within the circular

line, and this may be compared with the ornament seen on the dial at Old Byland.

The upper half of the dial has no lines and has inscribed on it

✠EAD

RIC

The name, Eadric, is worthy of some examination, for it may throw some light on the date of the dial, and if the dial can be dated then the date of the church will also be ascertained, for the dial is evidently *in situ* in the wall of the porch, and the porch was the most important external portion of a Saxon church.

Who was this Eadric? It is not a very uncommon name. The following extract from the will of Earl Aethelwold, as given in Harmer's *English Historical Documents of the Ninth and Tenth Centuries*, seems to throw some light upon this point.

After declaring to his dear and royal lord King Eadred what his wishes are, Earl Aethelwold continues 'And to my brother Eadric [I give] the estates at Ogborné, Ashdown, Cheam, and Washington. And to my brother Aethelstan the estates at Broadwater and Newton.' The date assigned to this will by Earle and Dr. Birch is 946-55 A.D., the duration of the reign of Eadred.

The Eadric mentioned in this will may very well be the Earl (ealdorman) Eadric who held office from 942-9, and who seems to have belonged to the south of England. As he had an estate at Washington in Sussex, which is near Bishopstone, he may also be the person mentioned on the dial. Eadric Streona, slain by Canute 1017, is out of the question, because he was a Mercian ealdorman and this church is in Sussex and outside his jurisdiction. This therefore gives a date for the dial about the middle of the tenth century, and the evidence of the architecture is thus confirmed by the dial, and its date may be taken to lie between 900 and 1000 A.D. and may probably be *c.* 950.

The lower half of the dial shows a style-hole and thirteen lines, five having cross-bars and being longer than the rest. These mark the four Saxon tides of the day and each tide is divided into three parts, thus marking the time from 6 a.m. to 6 p.m. in Roman hours. Some of the lines are seen to end in holes. The

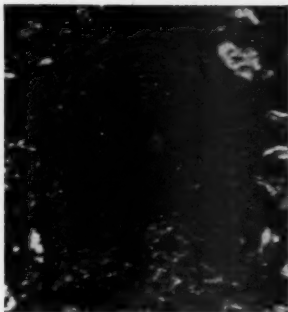


FIG. 19. Dial at Bishopstone.

dial is about 10 or 11 ft. from the ground and the aspect is about S. 15° W.

Great Edstone, Yorksbire, N.R.

The dial is in an excellent state of preservation. It is not in its original position, but is now built into the south wall of the very uninteresting church, over the south doorway, and is carved on a stone 52 in. long by 16 in. high, of which it occupies the upper central part.

The dial and the border all round the stone are in relief, the remaining portion of the stone being sunk, and on this

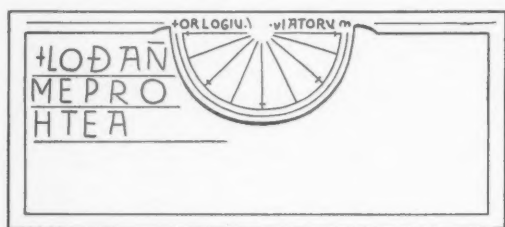


FIG. 20. Dial at Great Edstone.

the inscription is carved. The dial consists of a half-circle, with a double line round the edge, and five crossed lines dividing the day into four tides, each of which is halved by an uncrossed line.

Along the top of the dial also is an inscription which is somewhat damaged in the centre by the style-hole, the upper part of which is broken away.

The principal inscription is unfinished ; it should have filled the whole space on the stone, but only the upper corner on the dexter side is occupied.

Nothing is known of Lothan, but it is not an uncommon Scandinavian name. The Saxon Chronicle (1046, E) mentions a Lothen who came to Sandwich with 25 ships and took unspeakable booty ; but apart from the difference in the name, this Lothen does not appear to have had any connexion with Yorkshire ; he was driven from our shores off Essex.

I may mention that at Basle in Switzerland there is preserved an eighth-century MS., the 'book of S. Isidore', which contains a semicircular diagram, a so-called dial, superficially very like this Edston dial and having written across the top, just as here, the same words 'Orlogium Viatorum'.

Aldbrough, Yorkshire, E.R.

This Aldbrough is one of three places of the same name in Yorkshire and is situated close to the sea-coast, to the north-east of Hull. The circular sundial is now inside the church, built into the south side of the south transitional Norman arcade. Mr. J. E. Morris says 'The dial has probably been brought from an earlier church, the site of which may now be washed by the sea'.

The dial is carved on a circular stone and its face projects from the wall. It consists of a style-hole and eight radiating lines which divide the day-night into eight tides. There is an inscription between the two concentric circles which form the circumference. On the face of the dial there is a mark, possibly a variant of the swastika, and no doubt it was intended to mark the *dæg-mæl*.

As the dial is now fixed in the wall of the church this mark is on the dexter side of the lower perpendicular line, but Rickman's illustration² shows it in the upper half and on the sinister side of the perpendicular line. Haigh's drawing shows it on the dexter side above the horizontal line, but he believed the dial to have been of the horizontal type. When the dial is examined it is plain that it can be turned round to occupy any one of eight positions. When correctly placed, the beginning of the inscription is at the lowest part, just beneath the perpendicular noon-line, and, what is of more importance, the *dæg-mæl* is in the position it ought to occupy on a perpendicular dial, where it marks 7.30 a.m. just as a similar mark does on the Kirkdale dial and the special line does on the dial at Daglingworth.

It is impossible to obtain a good photograph of this dial owing to the position it occupies, but the inscription can be read with a fair amount of certainty. This inscription is of great importance, for it shows what Danish-English was like in the eleventh century, and Mr. Henry Bradley in *The Making of English*, referring to it, says 'We possess in fact, one short specimen of Old English as it was written by a Dane', 'which has been read as follows: *Ulf let āræran cyrice for hanum and for Gunware sāula*, i.e. "Ulf caused a church to be built for himself and for the soul of Gunwaru". Probably the sentence is more correct Old English than Ulf habitually spoke; but he made the mistake of putting the Danish pronoun *hanum* instead of the English *him*.'

This reading differs somewhat from that of Haigh, where *het* is read instead of *let*, *ærieran* for *āræran*, and *Gunwara* for *Gunware*. Haigh also rather preferred to translate 'for *hanum*' as 'for the

¹ Methuen's *Little Guide*.

² *An Attempt to discriminate the Styles of Architecture in England*, by Thomas Rickman.

poor', but Professor Chadwick considers Mr. Bradley's translation can hardly be improved upon, and that *hanum* is the Scandinavian for the English *him*.

The Ulf mentioned is probably Ulfus, the son of Thorald, and the well-known horn, called the Horn of Ulphus, is still preserved in York Minster. Gunwaru was still living at the beginning of 1066, and is mentioned in Domesday as a tenant, T. R. E., and, as according to the inscription she must have been dead at the time the dial was made, this date is the earliest possible for the dial and the church.

Weaverthorpe, Yorkshire, E.R.

Weaverthorpe is an illustration of a church of the Saxo-Norman overlap, showing, as Mr. Bilson says, 'the survival, nearly half-a-

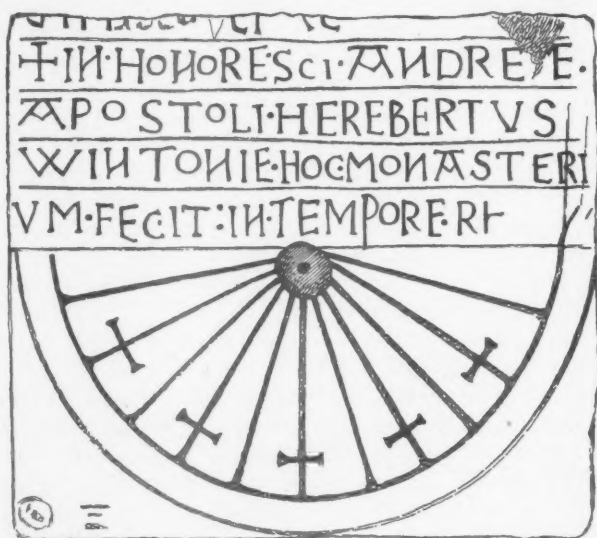


FIG. 21. Dial at Weaverthorpe.

century after the Conquest, of certain characteristics of the English building-manner of the days before the Conquest'.

The stone on which the dial and inscription are carved is now built into the tympanum over the south doorway and under a later porch. Probably it is not in its original position and the stone has been cut away, certainly above, and possibly below. The dial consists of a style-hole, which contains the bronze stump of the gnomon, and thirteen lines in the lower half of a double circle.

It measures 14 in. in width by 12½ in height. The inscription is incomplete at the beginning, where the stone on which it is incised has been cut away leaving however the lower portions of some letters, and it stops in the middle of a word at the end, but it may have been continued on a stone below the dial.

It reads: '+ In honore sci Andreæ Apostoli Herebertus Wintonie hoc Monasterium fecit in tempore re(gis).'

'In honour of St. Andrew the Apostle, Herbert of Winchester made this church in the time of (king . . .).'

The last letter is incomplete, but is possibly E, and the carver may have meant to carve *regis*.

Mr. Bilson has shown that Herbert of Winchester was the hereditary Chamberlain and that Thomas II, Archbishop of York, 1108-14, granted him a valuable property, which included Weaverthorpe, and thus began his connexion with Yorkshire, which ended by his son becoming Archbishop of the Province, to be canonized in 1226 as St. William of York.

The dial must therefore be dated between the years 1108 and 1114, and it shows its late date in its construction, for although the lines marking the Saxon tides are to be seen, they are not specially stressed by having a cross-bar on them, whereas the duodecimal system with its hour lines is completely in evidence, and the prominence given to every bi-hourly interval is a distinct feature of many post-Conquest dials.

*Marsh Baldon, Oxfordshire*¹

The dial is circular in shape, about 11½ in. in diameter, and is contained within a cable ornament, carved in relief. The style-hole is considerably above the centre and there is no horizontal line, but radiating downwards are three crossed lines marking the tides and two plain lines marking the beginning and the

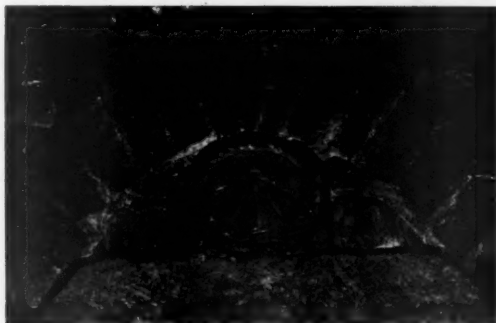


FIG. 22. Dial at Marsh Baldon.

¹ I am indebted to Mr. E. A. Greening-Lamborn for drawing my attention to this dial.

ending of the midday tide. These five lines are deeply incised and V-shaped in section, but on the dexter side in the upper part there is another line, not incised, but roughly scratched, shorter, and ending in an irregular indentation. This is in the correct position for the *dæg-mæl*.

Cable moulding is usually found as a Norman ornament, but it is used in Saxon work in the porch at Monkwearmouth, round a window at Boarhunt, Hants, over a doorway at Somerford Keynes in Wilts, and on imposts at Breamore, Hants.

This completes the examination of all the undoubtedly Saxon dials I have been able to find, but there are three dials of doubtful date which should be mentioned.

Pittington, County Durham

This church exhibits a large dial which is contained in a half-circle composed of one line and seven radiating lines, the central being crossed at the lower end. The measurement across the top is about 20 in. The stone on which it is incised is cracked from top to bottom. The lines divide the day into bi-hourly intervals, and this division of time is not a characteristic of Saxon dials; it is probably only a variant of the ordinary duodecimal system, with its twelve hours to the day, every alternate line being omitted for the sake of simplicity. This system of time-marking is not in relation with the Saxon tides, and is unlike the systems shown on any well-authenticated Saxon dial. Dials constructed on this plan are, however, often early, though not necessarily of pre-Conquest date.

Kirkby Moorside, Yorkshire N.R.

Inside this church there is a mutilated portion of a dial, now built into the splay of a window. It has been classed like the one at Pittington as Saxon. Its lines show the division of the day into the same bi-hourly intervals. It is only a fragment, and has been re-tooled; possibly many other lines are missing.

Leake, Yorkshire, N.R.

The Saxon sundial at Leake has already been described, but another dial in the church must be mentioned here; its date is somewhat doubtful. It is incised on a stone of a buttress on the south of the chancel, which was built in the fifteenth century, being over the priest's door, which is cut through the same buttress. The dial measures about 8 in. in diameter and consists of a complete double circle, having between its concentric lines in the lower

half an inscription, which is unfortunately indecipherable. The style-hole has radiating from it 24 lines, and no portion of the dial is in relief.

The inscription and, in a lesser degree, the double line at the circumference point to an early date, but in every other respect it conforms to the type of dial which is quite common in the post-Conquest period.

Saxon Dials which have now disappeared

Saxon dials have been described at the following churches :

Sinnington, Yorkshire, N.R.

Chester-le-Street, county of Durham.

Middleton St. Lawrence, county of Durham.

I have visited these churches and have failed to find the dials. The dial at Chester-le-Street has only disappeared quite recently.

Dials which are often styled 'Saxon'

By various authorities Saxon dials are said to be present at the following churches :

Bottesford, Lincolnshire.

Stevington, Bedfordshire.

Stockbridge, Hampshire.

Holy Sepulchre, Northampton.

I have visited these churches and the dials in every case show none of the usual Saxon characteristics ; they are all undoubtedly Mass-clocks of post-Conquest date.

CONCLUSION

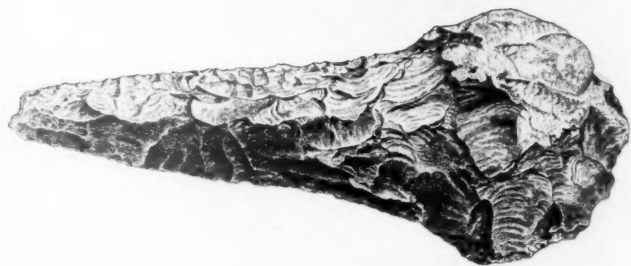
In this paper 24 undoubted Anglo-Saxon sundials (seven apparently *in situ*) have been brought together and described (and in this number the doubtful specimen at Arreton is not included). There is also substantial evidence that Saxon dials were formerly present at Sinnington and Chester-le-Street, but these have now disappeared.

About half the dials which I have described are now built into the walls of later churches and it is in post-Conquest churches that other examples are most likely to be found. In my book *Sundials, Incised Dials or Mass-clocks* several Mass-clocks are illustrated which quite definitely show the overlapping of the Anglo-Saxon and duodecimal systems of time-marking. These dials, which may be presumed to date soon after the Conquest, can only be 'spotted'

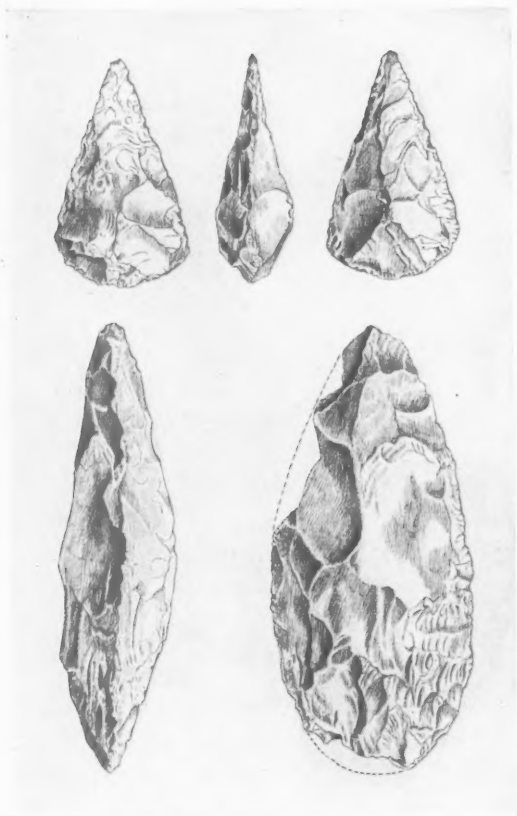
by a careful examination of the lines on them which show a combination of tides and hours; numerous examples could, I believe, be found, but they do not concern us now.

It is hoped that the publication of this list will lead archaeologists to keep a constant look-out for other examples, especially for those now hidden from view, but which may from time to time become exposed during repairs and restorations to the fabric of churches. Probably too there are a number of dials, scattered up and down the country, on or in churches, which, although plainly visible, have not been recognized as dating from the Anglo-Saxon period, and I shall be very grateful to any one who will direct my attention to any dials which may be of pre-Conquest date and which are not included in this paper.

Thanks for the loan of blocks are due to Mr. John Murray and Professor Baldwin Brown for fig. 8, and to the S.P.C.K. for figs. 1, 2, 5, 6, 7, 9, and 14.



Pointed palaeolith, St. Stephen's pit, Canterbury ($\frac{1}{3}$)



Palaeoliths from Hoath, Kent ($\frac{1}{3}$)

Notes

Appointments.—Mr. E. Thurlow Leeds, F.S.A., has succeeded the late Dr. Hogarth, F.S.A., as Keeper of the Ashmolean Museum, Oxford; and Mr. W. J. Hemp, F.S.A., has been appointed Secretary to the Royal Commission on Historical Monuments (Wales) in place of Mr. Edward Owen, F.S.A., who has retired.

Palaeoliths found in England.—Our Fellow Dr. Armstrong Bowes reports on recently found specimens which are remarkable for one reason or another and are now in his possession.

The 'ficron' from the gravel pit at St. Stephen's, Canterbury (pl. LXXIX), is worthy of record on account of its origin, size, symmetry, and pleasing coloration. The rounded butt is boldly flaked, the front retaining on each side a patch of cortex. Nearly one-half of the back consists of untouched, rough, and irregular cortex. Below the butt the implement is more finely flaked, tapered and flattened from back to front to a point, with a slight defect at the extreme end. The side-edges are very nearly straight and the surface is lustrous, most of it being of a rich brown colour with a few areas of lighter shade. Three-quarters of one edge is very dark brown, almost black, and the cortex is a light buff colour. Length 11.2 in., breadth of butt 4.4 in., thickness of butt 2.5 in. Weight 2 lb. 14 oz. For the pit see *Archaeologia*, lxxiv, 135.

The palaeoliths illustrated on pl. LXXX and in upper row of pl. LXXXI are the first recorded from gravels at Hoath, Kent. These gravels are situated $3\frac{1}{2}$ miles north-east of the rich implementiferous gravels at Sturry, and separated from them by two valleys at O.D. 50 and 60 respectively. They lie between 114.8 and 109 ft. O.D. and are worked in two pits on the same longitude, distant 50 yards from each other, with an intervening roadway. The face shows 1-1½ ft. of soil above layers of gravel and sand. The gravel seams vary from 4 to 8 ft., and are mainly of an ochreous brown colour.

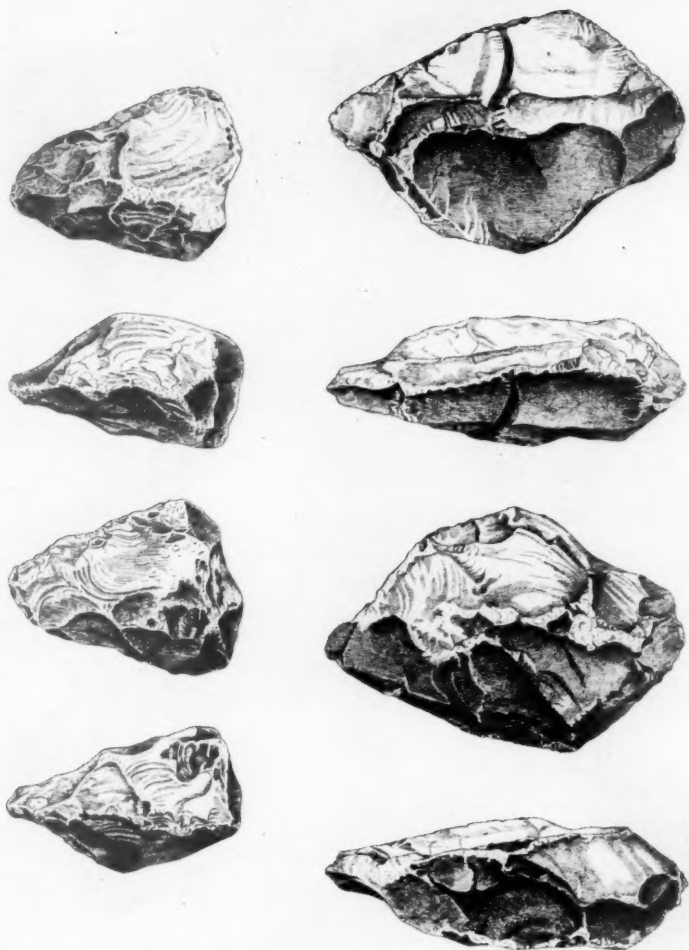
The large ovate and the small triangular implements (pl. LXXX) came from the south pit at a depth of 3 ft. in the gravel, the nodular implement (pl. LXXXI) from the north pit. The horizon of the latter cannot be specified, as it was found amongst the stones which had been turned out from an 8 ft. seam. The large ovate implement is ochreous, cracked and imperfect, and slightly rolled. One face is more lustrous than the other, and no crust remains. The flaking is bold, and the side-edges almost even and slightly curved. Length 7.9 in. The small triangular implement with a fine point is of a pale ochreous colour and unrolled. One side-edge is straight, the other slightly curved. The butt is flaked, and no crust remains. Length 4 in. The nodular implement is heavily rolled, lustrous in shades of grey, bluish grey, and brown patina, and is covered with incipient cones of percussion. It has a flat butt, squared and formed by three flake beds. A small portion of crust remains on the front near the butt. Length 3.9 in. This is evidently derived, but the small triangular implement seems to date the site as late St. Acheul or even middle palaeolithic. Hoath is at the

east end of a gravel spread largely covered by the Forest of Blean, on which some geological notes are given in *Proc. Geol. Assoc.* xxxix, 12.

The hand-axe from Cromer Forest Bed (pl. LXXXI lower row) was found at East Runton in February 1927. It is a flattened pear-shaped implement, lustrous and black except at the point, which is dull brown. The upper surface is rubbed on the ridges between bold flakings; and small portions of the patina are missing, with some disintegration of the underlying stone. The under surface, on which it rested when found, is formed by three longitudinal flake-beds, and is less rolled than the upper surface. The edges are slightly curved, and one patch of cortex remains, half an inch square, on the upper surface at its junction with the side-edge. Length 6.5 in., breadth 4 in., thickness 2 in., weight 1 lb. 12½ oz.

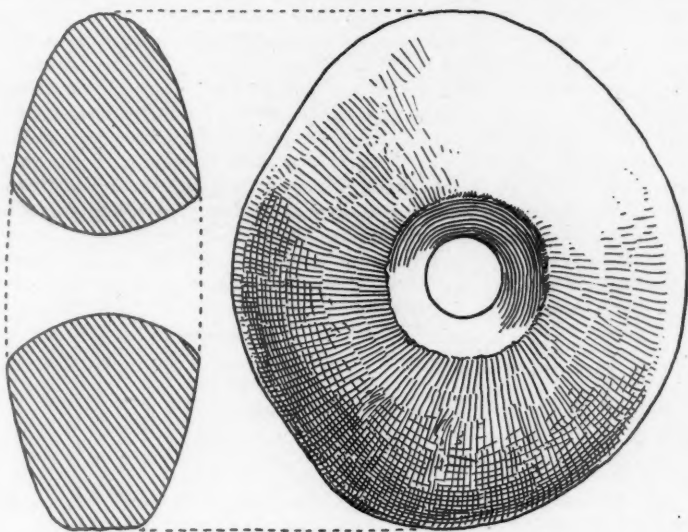
Another specimen was found about the same time and place. It is a massive side-scraper, roughly triangular in plan, the base of the triangle bearing the scraper-edge, which is slightly beaked in the centre. Each side of the triangle is formed by one hollowed flake-bed suggesting a grip for the thumb on one side and two fingers on the other. The upper surface is tortoise-shaped and the apex half occupied by the original dark grey cortex; the remainder of the upper surface and base with the exception of a three-quarter inch square of light brown cortex consisting of flakings of a lustrous black colour. The under surface is formed of two flat longitudinal flakings, the ripples on them indicating that both were due to percussion at the apex directly opposite the basal scraper-end of the implement. Length 5.2 in., width 3.9 in., thickness 2.0 in., weight 1 lb. 11 oz. These are not the only implements found in the Cromer Forest Bed; but all human work from a deposit that is often regarded as Pliocene (and in any case lies at the very base of the Pleistocene) should be put on record, as it puts man back in Britain before at least three of the glaciations of the Ice Age.

Neolithic mace-head from London.—Stone discs with central perforation are often found in the country (as in Hunts, *Antiq. Journ.* xi, 188) and are generally called mace-heads, the boring being normally of the hour-glass pattern, begun from both faces and meeting in the middle. This is considered the neolithic method, with a revolving stick in wet sand, whereas the Bronze Age people used a metal cylinder for piercing the centre. Apart from the river-bed, neolithic finds in London are important in proportion to their rarity, and the present example (see illustration) was reported by our local secretary, Mr. Q. Waddington, of the Guildhall Museum. It is a greyish quartzite pebble not quite symmetrical (4 in. and 4½ in. across), pierced in the centre and flattened on the edge at one end (bottom of section) by repeated battering: the weight is 1 lb. 10 oz. (0.737 kil.), and a good deal of wedging would be required to keep this disc at right angles to the haft if (as is commonly assumed) it was used as a mace. For ordinary grain-crushing (an operation which results in squared edges) a central perforation would be unnecessary and inexplicable. The site of the discovery is half-way along the Threadneedle St. front of the Bank of England, near the inner side of the façade: it lay under the made earth on the gravel, which is



Upper row : palaeolith from Hoath, Kent (4)
Lower row : flint from Cromer Forest-bed, East Runton (4)

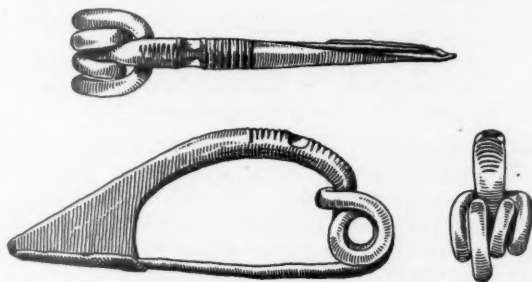
here 3 ft. or 4 ft. higher than on the Lothbury side, where most of the antiquities were found during rebuilding. A selection of these has been



Neolithic mace-head from London ($\frac{3}{4}$).

presented to the British Museum by the Governor and Company of the Bank.

Socketed celt and Roman brooch from Chipping Sodbury:—Mr. O. G. S. Crawford, F.S.A., sends the following note:—The



Roman brooch from Chipping Sodbury ($\frac{1}{2}$).

brooch figured here was found in 1927 in Messrs. Turner and Wilson's new quarry three-quarters of a mile north of Chipping Sodbury, in Gloucestershire. The quarry is situated on the left-hand side of the Wickwar road, a little to the north of a house called 'The Ridge', and

in the parish of Yate. The brooch was exhibited at a meeting on May 3rd together with a socketed bronze axe found close by. The exact site of the discovery of the axe is rather interesting. It was found in 1919 in a quarry of Messrs. John Arnold and Son, immediately north of the west end of the town of Chipping Sodbury (see *Proceedings of the Bristol Spelaeological Society*, ii, 172, plate 9). The interesting point about the site is that here, on Isaac Taylor's map of Gloucestershire (1777), is marked a large camp, and the remains of the camp itself are still visible. The position in which the axe was found is approximately the middle of this camp, as far as its outline can be restored. It is most remarkable that so important an earthwork should have been completely lost sight of for 150 years, and that even Witts did not include it in his handbook.

The two objects in question are in the possession of Mr. Murray Dowding, of Chipping Sodbury, on whose behalf they were exhibited.

Early Iron Age objects from Harpenden.—Our Fellow Mr. Thomas W. Bagshawe reports that there has been recently presented to Luton Museum by Alderman H. O. Williams, J.P., a group of interesting objects found by his father in 1867 between Harpenden and Luton, and recorded in Cussans' *History of Hertfordshire*, 1879-81, vol. iii, p. 350, as follows:—

‘ On the western side of my supposed Roman way from Harpenden to the Luton and Wheathampstead road, and within a few yards of their junction, another discovery was made when the Luton and Dunstable Branch of the Great Northern Railway was being constructed in 1867. A little to the south-east of the Station of that line, and about a mile north-east of Harpenden Church, the labourers found the remains of Roman interments at a depth of about four feet from the surface. Little care was used in extracting them from the stiff gravelly clay in which they were embedded, and the only article recovered in a perfect state was a cinerary urn. There were also found, close by, some vessels of turned wood, which crumbled into dust on exposure to the air. These vessels had an outer sheathing of brass, much corroded, to which were attached handles, formed by loose rings, about two inches in diameter, pendent from the mouths of very spiritedly moulded rams' heads. The deep vermilion with which the nostrils were painted remains most perfect. These articles are now in the possession of Mr. E. O. Williams, of Luton, who intends to present them to the Free Library and Museum of Luton as soon as the arrangements for the formation of that Institution are completed.’

The site, which may be plotted from the above description on the 6 in. O.S. Map Herts. XXVII N-E, is near the course of the Lea; close by in the same valley was found the Roman stone cist¹ near Pickford Hill, and at Cold Harbour a deserted Roman villa or other building. The banks of the stream seem to have been the site of settlements from the first century A.D. onwards.

The objects have been identified by Mr. Reginald Smith as belonging to the Early Iron Age, dating about the beginning of the first century A.D. They consist of parts of two or three turned wood vessels (fig. 1), two bucket handles of bronze (pls. LXXXII and LXXXIII),

¹ Brit. Mus. *Guide to Roman Britain*, p. 14; also Cussans, vol. iii, p. 349. *Archaeologia*, vol. xxiv, p. 349.



Bucket handle from Harpenden; front view ($\frac{1}{1}$)



Bucket handle from Harpenden; side view ($\frac{1}{1}$)

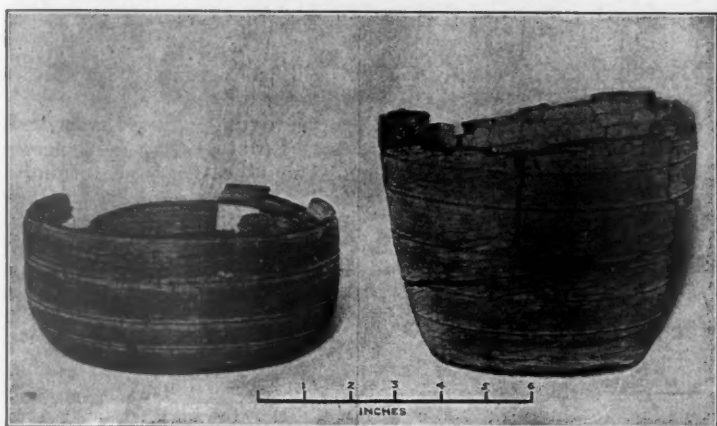


FIG. 1. Turned wooden vessels from Harpenden.

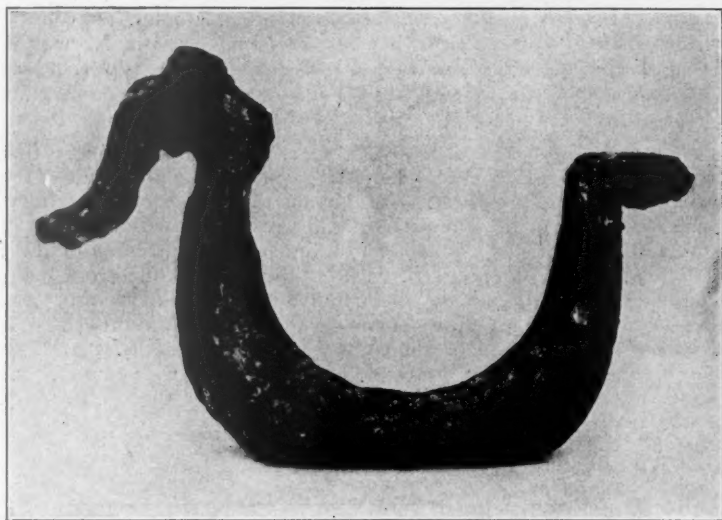


FIG. 2. Bronze mount from Harpenden ($\frac{1}{2}$).

a bronze mount (fig. 2), and parts of the sheathing of bronze mentioned in Cussans' note.

The wood of the vessels cannot be identified owing to the alteration of its structure. Both the vessels illustrated are ornamented with cordon lines; and one, probably that illustrated to the right of fig. 1, had a thin bronze covering. I am inclined to regard this as being connected with the handles; the larger pot, handles, and sheathing thus forming a single object.

The two bronze handles (pls. LXXXII and LXXXIII) are of two parts—a ring and the head of a horse. In the sides of the lips and in the nostrils are let in pieces of coral (not vermilion paint). The sockets can be seen in pl. LXXXIII, and the coral itself in pl. LXXXII. The inlaying is very similar to that in the handle of a small cup in Colchester Museum¹ found with six pottery vessels and a mirror, all about the same date as the objects now described.

The curved object (fig. 2) is of doubtful use. Mr. Reginald Smith, who has examined it, regards it as certainly of the Early Iron Age and probably affixed to the lip of a ceremonial bowl by the concave base. The likeness to a duck's head was probably intentional, as such birds were common in bronze at that (or an earlier) period in Europe. The iron collar Mr. Smith considers to be a later addition. The only parallel (and that not a close one) is on a cauldron-wagon of Hallstatt date (e.g. Forrer's *Urgeschichte des Europäers*, p. 440, fig. 342); but a curious analogy to the handles has just been published in Norway as Viking loot from Ireland, showing a late survival of the type (*Bergens Museums Årbok*, 1927, by our Hon. Fellow Dr. Shetelig).

Early Iron Age finds in Somerset.—Mr. R. Elliot Steel reports that last summer the men breaking up fresh ground on the north side of the quarry belonging to Mr. A. W. James in the parish of Henstridge, Somerset, just over the Dorset border, discovered buried in two feet of Forest-marble rock below two feet of top-soil the skeletons of three individuals, not fully extended. Two of these, the skull of one being complete, were examined by Sir Arthur Keith, who reported that one was the skeleton of a very muscular old woman, and the other that of a strong young woman of almost the same height—5 ft. 2 in. The complete skull he describes as 'dolichocephalic (176 × 131 mm.), the face oval, nose not prominent, teeth relatively large, the alveolar part of the jaw below the nose prominent and deep, chin small and receding, and this appearance accentuated by the forward projection of the teeth'; but Sir Arthur states that he is unable to say whether they belong to the Saxon or the Celtic race.

Later, on the west side, some four feet below the surface in a high vertical face of the rock formed by quarrying, was discovered a hearth with two cooking-pots, but in the process of extraction they were broken, and most of them lost in the deep quarry water below. These fragments were examined by Mr. Reginald A. Smith, of the British Museum, who concludes that 'this hand-made ware is not easy to date but appears, by the process of exclusion, to be of the early Iron Age;

¹ No. 645.04 in Colchester Museum; see also *Report* for 1904, p. 17.

for Anglo-Saxon pottery between A.D. 650 and A.D. 1066 is practically unknown, and that of the pagan period is easily recognisable and distinct from any pre-Roman period ware'.

The site is on a south-westerly slope; and near it, in Lord Stalbridge's park, is the only perennial spring in the district. It is hoped that as quarrying proceeds further discoveries may be made.

The Richborough Excavations.—The excavations at Richborough in 1927 were to a great extent confined to the investigation of remains earlier in date than those of the Saxon Shore period. The lay-out of the defences of the small third-century camp was traced, so far as is now possible, the eastern side having been destroyed by erosion. These defences consisted of a system of three ditches and presumably an earthen mound, which was entirely levelled when the later fort was built. There was an entrance on the western side, but none on the northern or southern. The enclosed area amounted to little more than two acres, and no remains of buildings that can definitely be assigned to the period of the camp have so far been met with in the interior. From the evidence afforded by the coins and pottery found in the ditches, it would seem that the latter had been filled in about the middle of the third century, and the fact that little silt had accumulated in the bottom suggested that they were open for only a short time.

The earlier double ditches must have formed part of the defences of a camp of a very different character. They have now been traced in a straight line for over 800 feet, with so far no indication of their stopping or turning at either end. The position of one entrance has been determined, and it is obvious that these ditches must have formed part of a fortification of considerable size. The exact date is as yet uncertain, but it must be very early, as coarse pottery of distinctly Late Celtic type has been recovered from the silt in the lower part of the ditches, while objects of Claudian date have been found in the mixed soil above. It seems reasonable to suppose that these ditches were part of the defences of a Legionary camp thrown up at the time of the Claudian invasion, but further investigation will be necessary before a definite conclusion can be reached. Evidence of wooden buildings of an early date have been found at the lowest levels, and these also await further exploration.

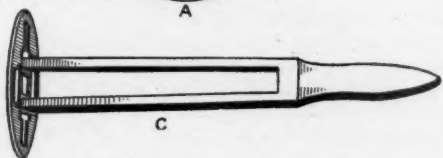
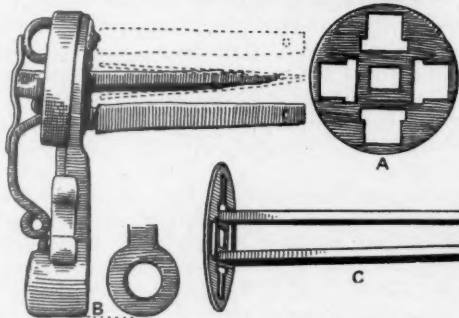
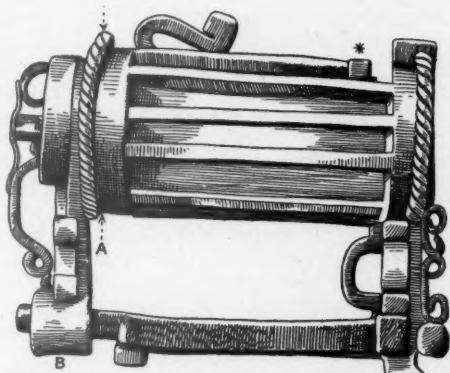
An interesting third-century burial was discovered under the west wall of the Saxon Shore fort. It consisted of an inhumation in a wooden coffin without any grave furniture, the only object found with the skeleton being a bronze pin, which probably fastened the shroud. About 6 ft. above the body at what must have been ground level at the period, were the remains of a small masonry chamber, which had been partly cut away when the wall of the later fort was built. There were slight indications that the chamber had been covered by a tumulus, as in a somewhat similar example at Rougham in Suffolk.

Traces of wooden buildings and hearths of the period of the Saxon Shore fort were also discovered, and the remains of two lime-kilns were found outside the walls. A number of rubbish pits was cleared out, and the coins, pottery, glass, and small finds were equal in interest and quantity to those of previous seasons.

Roman remains at Bushey, Herts.—Mr. A. Whitford Anderson, Local Secretary, reports that some Roman remains, pointing to the site of a dwelling-house, have recently been dug up in the parish of Bushey, Herts., when forming a new road, called Chiltern Avenue, through what was formerly open fields. The find consists of three small fragments, about 6 in. by 4 in., of coarse mosaic on concrete composed of lime, broken bricks, and a few pebbles. The pattern, so far as can be made out from the scanty remains, consists of a border composed of several rows of half-inch square tesserae, black, white, and red; the filling in is of irregularly shaped black, white, red, and green tesserae placed a quarter of an inch or more apart. The site is about 250 yards west of Little Bushey Lane and about 520 yards due north of St. Peter's Church, Bushey Heath; the level of the site is some 100 feet lower than the church which stands on the main London Road about two miles west of Watling Street. It appears to be the first recorded find of Roman remains in the parish of Bushey.

The missing Hartlepool gravestone.—The small gravestone inscribed Hildithryth but sometimes called the Stone of St. Hilda, is described as missing in Professor Baldwin Brown's *The Arts in Early England*, vol. v, p. 64, where it is illustrated (fig. 3, no. 1). It was given by a native of Hartlepool to Ipswich, where he eventually settled, and has recently been restored to Hartlepool Museum by the Ipswich Museum Committee, with the consent of the original donor's widow. This shows a gratifying elasticity in Museum management, and is of good omen for the development of the regional idea in preference to the policy of indiscriminate acquisition. The transaction is a credit to all concerned and is worthy of being placed on record as an archaeological item of news.

Padlocks from the City.—Two iron specimens of the barrel-type, belonging to the Governors of St. Bartholomew's Hospital, have been submitted by Mr. Waddington, Local Secretary for London, and the more elaborate is here illustrated in diagrammatic form. They were found during the clearing of the medieval town-ditch on the site of Christ's Hospital, now being cleared for the extension of St. Bartholomew's Hospital. The ditch was filled up in 1552, but the padlocks are probably long before that date, as the type goes back to Roman times (Brit. Mus. *Guide to Roman Britain*, p. 45, fig. 45), and they probably belong either to the Viking or early Norman period, as one figured in Rygh's *Norske Oldsager*, fig. 452, is a close parallel. Both the city specimens are of iron, which has been treated for rust in the British Museum laboratory; and the larger is $5\frac{1}{2}$ in. long, strengthened and ornamented with ribs and cable edging, and ribbon scroll-work at both ends. The barrel or barb padlock has springs like the barbs of an arrow attached to the detachable portion or bolt; and when the spring passes the pierced diaphragm in the barrel, it expands and can only be released by compressing it with a key inserted at the opposite end of the barrel. The other specimen now consists only of the barrel and bolt, with blades of an elaborate multiple spring like the preceding: in addition there is a finger-loop attached to the bolt to



Padlock from the City ($\frac{1}{2}$).
(The key C is conjectural.)

draw it out of the barrel when unlocked, but this specimen is devoid of ornament, the barrel being 3.6 in. long. In both cases the key-slot not only crosses the barrel end but encroaches on the under side of the barrel, so as to admit a key with the wards turned at right angles.

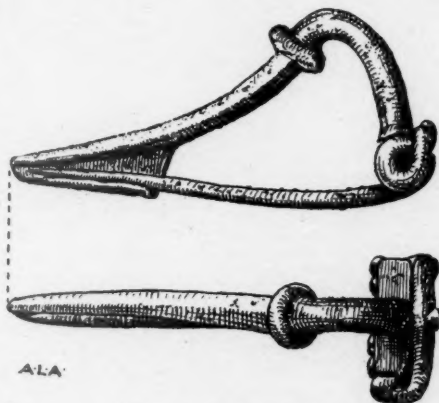
Excavations at Kouyunjik (Nineveh) during the winter of 1927-8.—Dr. R. Campbell Thompson, F.S.A., and Mr. R. W. Hutchinson have, during the past winter, completed the clearing of the Temple of Nabû in Nineveh, except a very small portion which had been so destroyed by later occupation as not to be worth the expense of digging out. The inner rectangle which contained a well and probably gardens, was dug out in 1904-5, and the platform of unburnt brick surrounding this has now been cleared. Unfortunately the walls, which had been also of unburnt brick, had almost entirely been destroyed; but a well-preserved pavement, still some 17 ft. by 11 ft., made of large limestone slabs inscribed with a dedication of Sargon (721-705 B.C.) was found towards the southern corner, and a similar large threshold slab in the north-eastern door. Along the south-eastern front ran a stone pavement about 15 ft. wide, which contained numerous slabs (face downwards) recording the piety of Ashurbanipal, who had restored the pavement in gratitude to the god Nabû for his victory over the Elamites. Not far from this side were discovered many fragments of a sculpture 10 ft. high, in two scenes, of Ashurnasirpal (883-859 B.C.) attacked by a lion, and his thanks for his deliverance, almost a replica of the sculpture from Nimrud in the British Museum. Another piece of sculpture (of Sennacherib's campaign in the southern marshes) showed the marsh Arabs in their reed boats, similar in shape to the *bellams* in use to-day. Underneath the long pavement was found a nearly perfect prism of Ashurbanipal, and many broken painted and moulded bricks obviously from the façade of another building. The outskirts of this building were discovered in the last week at about 23 ft. depth; they turned out to be a palace of Ashurnasirpal and his son Shalmaneser, and this may be said to be the oldest palace as yet found in Kouyunjik. As it is practically virgin, it is obviously the next part of the site to be cleared.

In a trial dig in another part of the site a house built by Sennacherib for his son was found, and from it came a practically perfect six-sided prism of Esarhaddon, giving the whole of his history, beginning with the account of his fight against his brothers, who, according to the Old Testament, had slain their father Sennacherib. Many of these finds are now on view in the British Museum.

Bronze brooch from Yorkshire.—Our Fellow Mr. Leslie Armstrong reports on a brooch found by a local farmer in a rabbit burrow on Steyforth Hill, Stainburn Moor, and forwarded by Mr. B. W. J. Kent, F.S.A.Scot., of Tatefield Hall, Beckwithshaw, near Harrogate. It measures $2\frac{1}{2}$ in. in length, $\frac{7}{8}$ in. in width across the head, $1\frac{1}{8}$ in. in extreme height, and weighs half an ounce. The bow tapers from head to foot, and for two-thirds of its length is in section a square having one diagonal vertical. It is then encircled by a collar and becomes circular in section, expanding at the head laterally into a narrow curved cover

for the bilateral spring of eight coils, the chord of which is gripped by an extension of the head, flattened and bent around it. The catch-plate is plain, and the pin tapers to a fine point. The brooch is of La Tène IV type, and has been assigned by Dr. Cyril Fox, F.S.A., to the first part of the first century, approximately A.D. 20 to A.D. 60.

Antiquities of the Iron Age are very sparsely distributed in the northern half of the West Riding of Yorkshire, therefore the specimen illustrated has an added interest. Steyforth Hill has, from time to time, yielded leaf-shaped and barbed arrow-heads, also pieces of Bronze



Bronze brooch from Yorkshire ($\frac{1}{2}$).

Age pottery, to Mr. Kent, and an Iron Age occupation of the site was suspected through the finding of fragments of polished black ware by the writer in 1912. Further research in the locality may yield interesting results.

Roman gravestone at Colchester.—The following account of a remarkable discovery is from our Fellow Dr. Philip Laver, Local Secretary for Essex (pl. LXXXIV). The stone was unearthed in some building operations on a part of the great Roman cemetery to the west of the walled town of Colchester. Lying on its face about 3 ft. below the surface it seems to have originally faced northwards, to the line of the present Lexden Road. Just to the north of the monument a road of Roman date roughly 24 ft. wide was found to run north-west and south-east at an angle to Lexden Road. The celebrated monument to a centurion of the XX Legion was found pointing northwards on the east side of Beverley Road—that of Longinus being a little west of the same road, approximately in the same line. The condition of the stone is excellent, the details of the carving being as sharp as the day they were cut; and the only missing portion of importance is the face of the deceased. The monument has been generously presented to the local museum by the owner, Mr. Chambers. The curator, Mr. M. R. Hull, supplies the following description, with which I agree, except as to the nudity of

the fallen warrior. It is the custom to describe these unfortunate individuals as nude, but in the present instance a close fitting jerkin can be made out quite clearly at its termination below the trunk and on the right arm, where it is rucked up, and fully in agreement with the position of the arm.

The inscription is clearly cut in regular letters with triangular stops between most of the words. There are no ligatures. The only dubious letter is F in the fifth line where P is also possible.

LONGINVS ▲ SDAPEZE

MATYCI ▲ F ▲ DVPLICARIVS

ALA PRIMA ▲ TRACVM ▲ PAGO

SARDI ▲ ANNO ▲ XL ▲ AEROR ▲ XV

HEREDES ▲ EXS ▲ TESTAM ▲ [F] ▲ C

H S E

Longinus, son of Sdapezematy-
tygus, a Duplicarius of the first
Ala of Thracians, from the dis-
trict of Sardica, in his fortieth
year and fifteenth of service.
The heirs of his will had this
(monument) made. Here he lies.

The Ala Prima Thracum is already known to have been in Britain. It is mentioned in the Malpas Diploma of 103. Subsequently it is supposed to have been transferred to Lower Germany; but there is always a possibility of confusion, for there were at least five first *alae* of Thracians with varied titles (Cheesman, p. 178).

Longinus was a Thracian and came from the district of Sardica (also spelt Serdica), the modern Sofia. He held non-commissioned rank of Duplicarius (next after Decurion) and had only completed fifteen of his twenty-five years' service when he died at or near Colchester. A tombstone is usually evidence of the actual presence of the unit in garrison; and if this be right, we have here the first trace of any garrison in Colchester. Such an occupation would hardly outlast the foundation of the *colonia* in A.D. 50. Time must also be allowed for the conquest of the West and the transport of this huge block from Bath. The stone is therefore closely dated in the middle of the first century; a conclusion to which one would come in any case from its style.

There is a well-known group of cavalry tombstones in which the deceased is represented (always to the right) riding over a prostrate barbarian. The scheme is of Greek derivation and is localized among the auxiliary cavalry of the Rhine and Britain. The rider is in battle order, generally with spear and shield, and the cavalry sword swinging from a baldric on the *right*-hand side. Some of the details vary in certain districts. In Upper Germany, for example, the armour-bearer is seen standing behind the horse carrying two spare spears as on the Greek original; the barbarian is on his back beneath the horse, but does not appear on the Greek original. At Bonn, however, the custom was to omit the armour-bearer and barbarian. The exact pose of horse and rider is repeated monotonously.

Connexion with the Rhine is established by the sphinx flanked by lions which links up with the tombstone of Bassus at Cologne (Espérandieu, VIII, 6435, and *C.I.L.* 8308). But our stone is in several respects distinctly original. The scheme of the sphinx and lions is totally different from the Rhine examples. Two large snakes with low, serrated crest have each seized on the tail of a lion. The sphinx itself seems to be represented with human knees, which is unusual. Other noteworthy points



Roman gravestone from Colchester



are that the rider has no sword or sword-belt, and the barbarian is crouching on his shield almost on 'all fours'.

Longinus wears a close fitting hemispherical helmet which probably had a triangular peak projecting in front, or it may have been of the more ornate variety with cheek-pieces like that of C. Romanus at Mainz. His corslet is of scale armour, carefully represented, while his legs are shown bare as is often the case. This can only have been a sculptural convention. His only arms are a shield and the usual lance (or sword?) which must have been of metal and was inserted through a hole in the right hand (visible in the photograph).

The horse is represented in a conventional pose, with harness as usual, and large phalerae, from which hang ribbons. The saddle-cloth seems to have no less than five girth bands, but some of these may represent ribbons (see the tombstone of Albinus, Châlon-sur-Saône, Espérandieu, III, 2150). The barbarian is nude, and unarmed save for his shield. The representation is contemptuous as usual. There is no trace of colouring on the monument.

The Newbury Museum.—As a memorial to the late Walter Money, F.S.A., whose work as the historian of Newbury is well known, it is proposed to carry out a long needed extension of the museum, where are housed many of the evidences for the history of Newbury and its neighbourhood. The museum was founded in 1843, and since 1902 the collections have been kept in the old Cloth Hall. The Town Council has recently acquired a range of buildings behind the existing museum and has consented to this being converted into an addition to be known as the Walter Money Galleries. Plans for the conversion have been prepared and provide for an extension of the History Room to allow space for additional cases for local specimens, and to enable the Survey of the Old World, which is carried out on the 'Space for Time' method, to begin at 3000 B.C., with a prelude dealing with the Palaeolithic Age, instead of at 2400 as at present. Upstairs a gallery will be devoted to the Natural History of the neighbourhood. Space will also be provided for the orderly storing of reserve specimens and for the large numbers of title deeds and other local documents which are now being deposited in the museum in ever-increasing quantities. The Committee is appealing for £1,200 to enable the extension to be reconstructed and to provide the essential fittings. Contributions should be sent to the Mayor, Municipal Buildings, Newbury, Berkshire.

Reviews

The Etruscans. By DAVID RANDALL-MACIVER. 7½ x 5. Pp. 152. 15 plates and map. Oxford: University Press, 1927. 6s.

As we are reminded on the jacket of this book, 'there has never been any written history of this people, and what we know about them is due to the work of archaeologists during the last fifty years'. It would, however, be only doing justice to such pioneers as Micali and Dennis to say 'the last hundred years'. It has possibly been felt that the time for attempting to write a history of the Etruscans has not yet come, while their language still remains a secret, in spite of the attempts of Professor R. S. Conway, Professor Trombetti, and other scholars of more or less repute, and while so many problems relating to their origin and their artistic productions are still awaiting solution.

Be that as it may, we are now most grateful to Dr. Randall-MacIver, for his attempt to give an account of this mysterious people in a form intelligible to the ordinary reader as well as useful to the scholar; and no better exponent of the subject in this country could have been found. As however so often happens, there has appeared almost at the same moment a work on similar lines by Pericle Ducati, a well-known Italian authority, but this is more ambitious in scope, more fully illustrated, and will probably fall into the hands of few English readers. Nor must we omit to mention Dr. Randall-MacIver's previous volume, *Villanovans and Early Etruscans*, which though more elaborate in treatment than the present work, and dealing with an earlier period, is a valuable introduction to the subject.

The book is far from being a dry record of facts, like so many works of the kind; it has the merit of being compiled on no systematized plan, but the subject is treated with a pleasing variety, in a bright style, and with plentiful use of modern parallels. Chapter I introduces us to the problem of the origin of the Etruscans, and vindicates the tradition recorded by Herodotus and many other ancient writers of an Asiatic origin, probably Lydian. It also dwells on the importance of these people for the history of Italian culture, and reminds us that even Ruskin recognized the debt which the Tuscany of the Renaissance owed to them, to say nothing of their influence on Classical Rome. The two succeeding chapters deal with Etruscan civilization as shown in existing works of art, especially in metal, and with the organization of Etruscan society, and the evidence of its wealth which we may deduce from the finds in tombs at Cervetri and Praeneste. The reader is then conducted over the more important ancient sites, such as Corneto and Cervetri, Veii and Vetulonia, ending up with the wonders of the Archaeological Museum at Florence, its bronzes and its tomb-groups. In Chapter VII an attempt is made at a proper estimate of Etruscan art, especially in relation to Greek; Chapter VIII deals with Etruscan religion and with what we know of their language from inscriptions. In the two final chapters the author deals with the traces of Etruscan civilization in other parts of Italy, and the final collapse of Etruscan power under the advancing greatness of Rome.

From this brief summary it will be seen what a wealth of information is packed into comparatively few pages, every one of which is full of interest. The only thing to be desired is a larger supply of illustrations.

H. B. WALTERS.

Corpus Vasorum Antiquorum. France. Fascicule 6. Collection Mouret.

By FELIX MOURET. 13 x 10. Pp. xiv + 49. 55 plates. Paris: E. Champion. London: Milford, 1928. 17s. 6d.

France. Fascicule 7. Paris—Bibliothèque Nationale (Cabinet des Médailles). By Mme S. LAMBRINO. 13 x 10. Pp. 35. 48 plates.

Paris: E. Champion. London: Milford, 1928. 17s. 6d.

Pays-Bas. Fascicule 1. Musée Scheurleer (La Haye). By C. W. LUN-SINGH SCHEURLEER. 13 x 10. (Pagination and numbering of plates not continuous). Paris: E. Champion. London: Milford, 1928. 21s.

The present writer has on previous occasions been privileged to review other volumes of this great undertaking (in the fifth and seventh volumes of this *Journal*). The total number issued has now amounted to nineteen, three of which have appeared this year and now call for notice. France continues her steady output, and the Netherlands have now made their first contribution.

The three volumes under consideration vary somewhat both in contents and in method of arrangement. That devoted to the description of M. Felix Mouret's collection is wholly occupied with the results of excavations at Ensérune near Béziers in the south of France. This was a site of great strategic importance both in pre-Roman and Roman times, and has yielded from its lower strata not only Iberian pottery resembling that found at Ampurias in Spain and dating from the fourth century B.C., but also some interesting Italo-Greek vases of the same date exported from Campania. Plates 3 and 4 give coloured reproductions of a beautiful cup of even earlier date, a purely Attic vase of the end of the fifth century, attributed by M. Pottier to the school of the potter Meidias. It is unfortunately much damaged, but is an exceptional instance of a fine Greek vase found on Gaulish soil. The Campanian vases are mostly of black ware with simple decoration of wreaths in white, or stamped patterns. Out of fifty-five plates, thirty are devoted to Greek vases, sixteen to Iberian and other pre-Roman fabrics, and the remainder to Gallo-Roman pottery, mostly of the late stamped red wares.

The Bibliothèque Nationale fascicule contains forty-eight plates, in which are comprised all the primitive and early Greek fabrics in the collection, from the geometric pottery of Thera down to the Attic black-figure style. It is the work of Mme. Lambrino, who as Mlle. Marcelle Flot compiled the Compiègne fascicule noticed in the fifth volume of this *Journal*. The treasures of this collection are already well known to scholars from the admirable catalogue by M. de Ridder issued some twenty years ago. It is especially rich in Corinthian vases, but is most noted for its cups of Laconian (formerly styled Cyrenaic) ware, including the famous Arkesilas cup with the weighing of silphium for export from Cyrene (figured on pls. 20-1). Another good example is the cup with the blinding of Polyphemos (pls. 22-3). The Chalcidian amphora on pls. 24-5 is among the most noted of its class,

and on pls. 33-48 are many fine examples of the Attic black-figure style, notably the amphora signed by the potter Amasis, illustrated on pls. 36-7. The plates on the whole are well executed, but there are a few failures, such as pl. 38.

Lastly we have the description of an important Dutch collection, the Musée Scheurleer at the Hague, with 48 plates of vases covering the whole period of Greek pottery from the Mycenaean age to the third century B.C. Among the most noteworthy vases are a Mycenaean krater with figures in a chariot (a type often occurring in Cyprus), a hydria of the Ionic Caeretan class, and a Panathenaic amphora or Attic prize-vase. The order of the plates is far from being chronological, but this is presumably unavoidable with the system of classification adopted by the Union Académique Internationale. On the other hand it seems a pity that in the text each section should have a separate pagination; the text of the Bibliothèque Nationale fascicule, which covers roughly the same ground, is continuous, and reference is thereby greatly facilitated.

H. B. WALTERS.

Lindø. En Boplads fra Danmarks Yngre Stenalder. Af J. WINTHER. 2 vols., 12½ x 9½. Pp. 56 and 60; Rudkøbing, Andr. Brandt, 1926 and 1928.

Seldom can there have appeared a finer record than these two volumes of the fulfilment of a youthful enthusiasm aroused by the report of an archaeological site and nursed with a persistence beyond praise until in later years the long-wished chance came to put it to the test. It was in 1879 that the author first heard of finds on the low islet, Lindø, joined by a causeway to the shore of a bay on the west coast of Langeland, one of Denmark's larger islands, but not until 1901 was he able to begin his exploration of the site. From that time onwards down to 1925, with some breaks, Herr Winther evidently devoted a large part of his spare time to a thorough investigation of what proved to be a habitation-site of the later Stone Age. The result of this work is a carefully prepared report, presented with quite needless modesty, lavishly illustrated by excellent photographs both of various features of the site and of the archaeological material.

An admirable picture of an occupation-site shortly before the coming of metal is presented by a series of hearths, some mere heaps of stones, others with carefully made clay-walls, within areas ill-defined by post-holes and even remains of clay-lined walls. These furnished good evidence of a wattle-and-daub construction, the timber of which was proved by the impressions left in the daub (in which traces of barley and wheat were also detected) to be usually oak or birch. Besides heaps of bones and frequent oyster- and mussel-shells in the floor-refuse, other debris was found outside the house-areas, some from pits from which clay had been extracted for making pottery or daub, or in heaps on the old land-surface.

The date of the settlement was established by the presence of thick-butted chipped flint axes and chisels, and by decorated pottery, characteristic of the period. Earlier axe-types of stone, and flint-scrapers, hammerstones, awls and chisels, and other implements of bone or antler, some made from bones of carnivores, form an interesting

inventory of the household goods of such a settlement. To a list of the fauna is appended a diagnosis of the small quantity of charcoal discovered. This was mainly of ash, but in one case beech was recognized, heralding as it were the eventual displacement of the oak-forests.

Neolithic habitation-sites subsequent to the kitchen-middens, and especially those of the latest period, have not often been brought to light in Denmark, in spite of the richness of its Stone Age in other respects, and Herr Winther therefore is the more to be congratulated on the successful issue of his painstaking and thorough investigations.

E. T. L.

The English-German Nation in the University of Paris during the Middle Ages. By GRAY-COWAN BOYCE, Ph.D. 9 x 5½; pp. 232. Bruges: St. Catherine Press. 1927.

This is a thesis based mainly on the documents printed by Denifle and Chatelain, supplemented by research in MSS. at Paris. It supplies a few minor corrections to Rashdall and prints some interesting regulations and lists of the possessions of the Nation. A bibliography and index are provided, but the appendices are not indexed; which may cause a careless reader to miss the reference to William de Greenlaw and Walter de Wardlaw (afterwards Cardinal) on p. 183. C. JOHNSON.

Romans, Kelts, and Saxons in Ancient Britain: an Investigation into the two dark Centuries (400-600) of English History. By R. E. ZACHRISSON (Skrifter utgivna av K. Humanistiska Vetenskaps-Samfundet i Uppsala, xxiv, 12). Uppsala and Leipzig, 1927.

In an attempt to elucidate the course of events here during the Migration period, the author once more reviews the scanty historical, archaeological, and linguistic evidence, and arrives at the conclusion that the Britons, especially in the western half of England, were not exterminated but absorbed by and amalgamated with the victorious Saxons. The late Professor Bury might have been quoted in support of the view adopted from Mr. Foord that Britain should have been still in Roman possession during a considerable part of the fifth century; but this has met with little favour in England (see *Antiquaries Journal*, vii, 268-81; *Journal of Roman Studies*, xii, 74). With Professor Mawer the author rejects the usual identification of the *Ægæles threpe* of 455 with Aylesford, and the *Crecganford* of 457 with Crayford; and follows Professor Stenton in interpreting the events of 571 as the first important inroad into British territory north-west of the Chilterns. To support the contention that some at least of the Romano-British towns survived as Keltic centres, London, York, and Canterbury are quoted as sites deliberately selected by Rome as bishops' sees, not because their names were revived by the missionaries but because they had seen no interruption of civilized life. It is well pointed out that the true English form of Cirencester is preserved in the river Churne on which the town is situated; and a list of place-names containing the O.E. *Wealh*, *Weall*, or *Weala*, adds to the value of a work which shows a surprising knowledge of England; but an error has crept into a note on p. 62 which asserts that Cissbury Camp is the largest earthwork in the country.

REGINALD A. SMITH.

Wessex from the Air. By O. G. S. CRAWFORD, F.S.A., and ALEXANDER KEILLER, F.S.A., F.G.S. 11½ x 9. Pp. xii + 264. Oxford: at the Clarendon Press. 1928. 50s.

This notable work establishes the importance of air survey in British archaeology; it demonstrates that levelled field-banks, dykes, camps, and barrows invisible to a student on the ground can be detected from the air: our knowledge of the early history of Britain can thus be widely extended. What is equally important, the material evidences of changes and development resulting from continued occupation of a given site can be analysed far more easily from the air than from the ground. The aeroplane in short, where sites on open country are concerned, is an essential adjunct to large scale excavation. Costly though it undoubtedly is at present, its services in obviating the misdirection of labour on large digs would probably render it a cheap investment.

The most remarkable discoveries recorded from the air appear to depend on the sensitiveness of plants to slight differences of soil and moisture. For example, 'if a ditch has been dug on a chalk down and the down has afterwards been ploughed flat and sown with corn, for ever afterwards the subsoil filling (or silt) of that ditch differs from the adjacent never-disturbed soil. Nothing can ever restore chalk once dug to its former state of compactness. Archaeologists have long known this, for one of the principal needs in excavation is to distinguish between disturbed and undisturbed soil. But one cannot dig up a whole field or several fields to find a ditch which after all may not exist. Here it is that a vertical view helps; for the effect of this moisture silt upon a crop of corn is to promote its growth and deepen its colour. Thus from above one sees and can photograph a belt of darker green corn following the line of the vanished ditch.' So much for lost sites; for visible earthworks it is equally valuable. The authors lay emphasis on the fact that on complex sites it is the *distant* view, only possible from an aeroplane, which converts chaos into order; the observer on the ground sees only a maze of ditches and banks. Those of us who have had experience of the slow procedure with spade and level needed to explain such sites can best appreciate the powerful aid given by the new instrument which science has put into our hands.

Information as to existence of ancient sites or as to the unexpected extension and complexity of known sites is given not only by differential vegetation but also by shadows cast in early morning or evening by low banks and almost invisible ditches; by lines of rabbit burrows (rabbits naturally select loosened soil for their homes); and by the difference in colour, on ploughed lands, between the soil of partially-levelled banks and the adjacent land.

The Introduction to the book gives the history and bibliography of archaeology from the air; the Preface tells us how the fruitful co-operation of the authors was established.

Cameras, exposing plates automatically over archaeological sites from box kites, were tried in the 90's of last century, and photographs of Stonehenge from a war balloon were published in *Archaeologia* in 1906. During the war archaeological air photography was carried

out by the Germans in Sinai, and at the same time Colonel Beazley, whom the authors describe as the pioneer of archaeology from an aeroplane, was discovering by its means ancient sites in Mesopotamia. The birth of the new study in England dates from 1922, when co-operation in archaeological research between the Royal Air Force and Mr. Crawford began. The publication of his *Air Survey and Archaeology* in 1924 aroused wide interest and appreciation, and it brought him into touch with Mr. Keiller, who had been, as a pilot in the R.N.A.S. during the War, impressed by the archaeological possibilities of air photography. He provided an aeroplane and photographic equipment; the R.A.F. authorities gave valued assistance, and the present book records the result of work carried out in Wessex during the summer of 1924.

Four classes of ancient sites were then intensively examined, and are here described—camps, villages, ancient fields, and barrows; photographs have, moreover, been taken above Avebury and Stonehenge, and a number of miscellaneous sites. Some forty-seven sites are thus dealt with; the photographs are first-rate, as might be expected, and are reproduced on an adequate scale. The procedure adopted with each is to be commended; it may be exemplified by a reference to pl. I, Hod Hill, one of the most interesting camps which the authors have studied. Opposite the reproduction of the air photograph (size 8.2 x 5.8 in.) is an outline showing in black and white all the *relevant detail* observable on the plate. Essential topographical and technical information concerning site and photograph is tabulated at the head of the descriptive text; in this text the earthwork is described and the significance of the details shown on the photograph discussed. At the end are references to the literature and to finds, in some cases embodying much special research.

Camps, as might be expected, yield the most brilliant results to the air photographer. The most instructive is Hambledon Hill; the successive stages in the fortification of this hill are analysed by our Fellow Dr. Eric Gardner, who has made a special study of it.

The most intriguing fortress is perhaps Yarnbury, with traces of an earlier camp visible within the great earthworks. Another fortress, Woodbury, near Salisbury, had been levelled and was unknown to science until the line of its ditch was revealed from the air (pl. VIII). Meon Hill camp, lost to written record since 982 A.D., was rediscovered on 12th July 1924. There is, as will be perceived, dramatic interest in such work as this, which is fully appreciated by the authors—'on the 12th July, we set out for this spot [Meon Hill] with the deliberate object of looking for an earthwork that had been lost for nearly a thousand years. As we approached the site the circle of poppies [marking the outline of the vanished fort] was plainly visible both to pilot and observer. Presumably the moister soil of the silted-up ditch promotes their growth in the same way that it colours the corn a darker green. A subsequent visit on the ground showed that a line of poppies could be detected, but was not specially noticeable, and would certainly not have attracted the attention of an archaeologist on foot.'

Ebbsbury, a fragmentary fortress with traces of cultivation adjacent,

reveals from the air an interesting phase of civilization. The cultivated fields are mainly of the Roman period, the banks and ditches pre-Roman: the earthwork is not an incomplete structure, but one which, as a result of the *Pax Romana*, was of no military value, and its defences were being levelled and used for agriculture, just as in modern days the medieval defences of many a walled town are thrown down and the area used as a promenade by the citizens.

Mr. Crawford has familiarized us with the view that the square fields on the uplands of Wessex are those of Celtic villagers, and that these fields were cultivated down to the end of the Roman period. Information bearing on the history of early agriculture and supporting these conclusions is given in this book. Pl. XXIII, a photograph of Bathampton Down, is especially instructive, while pl. XXVI, of Pertwood, reveals pre-Roman fields almost obliterated by the Romano-Britons themselves.

In the Barrow group the photographs of disc barrows—a 'beautiful type of burial place' as the writers justly remark—may be specially commended; the introductory section dealing with burial mounds is an extended and useful survey.

Air photographs of Avebury were disappointing, revealing nothing not previously known; some new photographs of the Stonehenge Avenue, recently rediscovered by Mr. Crawford, are reproduced. Incidentally the book is full of suggestive notes by Mr. Crawford, e.g. that on the age and purpose of Avebury. Finally, attention may be drawn to the queer bypaths in field archaeology suggested by the series of photographs grouped as 'Miscellaneous'.

The book is admirably produced and the arrangement shows great care and thought. The introductory account of the different kinds of earthworks illustrated is unequal; the section dealing with camps might well have been expanded by reference to all the important discoveries made during the survey. It is not unreasonable, I hope, that a reader should ask for guidance in the Introduction as to where, in a book which consists of a series of separate studies, the new results are to be found and the more interesting problems discussed. The only minor point noticed for criticism was that one or two of the explanatory diagrams, e.g. fig. 60, are shown at a different angle from the plates which they illustrate. This renders comparative study difficult.

A much-appreciated addition to a delightful book is an index map of the sites photographed. The writer can imagine no more interesting motor tour than one in the area covered by it, with this latest and best guide to Wessex as his travelling companion. CYRIL FOX.

The Royal Commission on the Ancient and Historical Monuments and Constructions of Scotland. Ninth Report, with Inventory of Monuments and Constructions in the Outer Hebrides, Skye, and the Small Isles. 10 $\frac{3}{4}$ x 8 $\frac{1}{2}$; pp. lvi + 230. Edinburgh: Stationery Office, 1928. £1 12s. 6d.

This, the eighth of the Commission's detailed reports¹ on Scottish counties and districts, is of great interest and importance, especially to

¹ Already published: Berwickshire, Caithness, Dumfriesshire, East Lothian, Stewartry of Kirkcudbright, Sutherland, Wigtownshire.

students of the prehistory of Britain, dealing as it does with the Western Isles. The monuments on these islands, apart from Uist, have not previously been adequately recorded in the literature, and are barely accessible. Our knowledge of the insular field archaeology of Scotland, therefore, is largely confined to a few monuments of outstanding importance. The present volume shows that the wealth of the area in visible antiquities is far greater than might be expected by those who, like the reviewer, have only a limited acquaintance with the Scottish islands. Nearly 700 monuments accredited to a date prior to 1707 are recorded.

The work has extended over a prolonged period (1914-25) and the Commissioners emphasize the peculiar difficulties of the survey. Many ancient monuments exist on islets or lochs. 'In some cases a partially submerged causeway could be used, though only at the cost of a wetting; very rarely a boat was available; more often the remains were inaccessible without special provision, and observations consequently had to be made from the shore.' Special arrangements were made for obtaining information about St. Kilda, North Rona, and the Flannain Isles, but the island of Sula Skeir could not be visited. Archaic structures in the islands, it is noted, while very numerous, are for the most part in a seriously dilapidated condition. 'Certain erections, however, still rank among the best preserved of their class—an undisturbed "long cairn" in Skye, the standing stones of Callanish, the broch of Carloway, the church of St. Clement at Rodil.' The last three monuments are, fortunately, now under the care of the Office of Works.

The report, like its fellows, is fully illustrated. There are 313 half-tones and text-figures, and the descriptions, though necessarily condensed, are fully informative. Distribution maps show the range, number, and situation of the chief class of ancient constructions, and a list of the portable antiquities recorded as existing in museums and in private collections increases the value of the survey to the archaeologist and historian.

The introduction, occupying thirty-two pages, is an important contribution to the archaeology of Scotland. An historical survey precedes a detailed analysis of the main types of ancient structures met with; the period to which these belong and their mainland equivalents are discussed. Thus from these thirty-two pages, with occasional reference to the inventory for details and photographs, the general reader can quickly gain an adequate idea of the data available for reconstructing the prehistory and early history of the islands.

The oldest monuments described in the report are long chambered cairns, locally called barps, which here, as elsewhere, appear to belong to the Stone Age. Chambered cairns of circular form are also numerous in the Hebrides, and it is noted that two large cairns of this class are unopened. The fringe of large stones set on end in a circle around the base of such cairns suggests a possible origin for the stone circle. Furthermore, stone circles, pillar stones, and avenues of standing stones are in the Hebrides frequently connected with cairns; this tends to support the view that all megalithic structures are directly or indirectly connected with the cult of the dead. The

significance of the famous circle at Callanish and its setting of standing stones is stressed; within four miles of it are seven of the eleven circles still left in Lewis.

The Commissioners remark that 'Nothing has impressed us more strongly in the course of our survey of the prehistoric antiquities of the islands, particularly in some districts, than the large number of defensive constructions, loosely called *duns*'. The distribution of these stone-walled fortresses is interesting; it shows that 'those parts of the islands which were thickly populated in prehistoric days are precisely the parts where the population has tended to concentrate since'. Duns in the area are uniformly small, but present great variety in type; the Commissioners distinguish six classes. The first five of these are galleried duns, brochs, promontory and seashore forts, and forts in lochs.

The evolution of the broch out of the galleried dun is suggested, and a typological series illustrated. Such constructions probably originated in the Early Iron Age; and the persistence of the building tradition represented by them is remarkable, forts of dry stone masonry continuing to be constructed 'well into medieval times'. The sixth class of defensive construction, fortified islands with boat harbours, are probably all medieval. The remains attributable to the Scandinavian occupation are scanty; and it may be remarked that the critical and scholarly attitude of the writer of the introduction is nowhere better exemplified than in the paragraphs dealing with the Vikings.

Many readers will turn with interest to the records of ecclesiastical structures. These are for the most part primitive and rudely built, whether they be of the Columban church, or later. Architectural descriptions in the volume are adequate; the well-illustrated account of St. Clement's Church at Rodil is deserving of special commendation.

The ninth volume of the Commission thus maintains a high standard of excellence in its archaeological record, and the Commissioners are to be congratulated on its production. The important share in the work taken by Mr. J. G. Callander, now Director of the Museum of National Antiquities, is referred to in the preface.

CYRIL FOX.

Alt-Ithaka: Ein Beitrag zur Homerfrage. Studien und Ausgrabungen der Insel Leukas-Ithaka. Von WILHELM DÖRPFELD (and others). In 2 vols. 10½ x 8. Vol. i: text, pp. xvi + 400; vol. ii: bibliography, index, &c., pp. 401-42, plates 1-89, maps and plans 1-20. Munich: Uhde. 1927.

This is an important book; but less for what it tries to prove than for what it reveals and admits, and as an illustration of the casual way in which knowledge grows. The Homeric description of Ithaca, its situation in respect to neighbouring islands, and its internal topography, present difficulties which were appreciated in antiquity, and have been matters of controversy since Hercher's sceptical essay in *Hermes*, i, 263 (1866). As long as Homeric criticism followed the principles (1) that the poems as known to us have not much to do

with Homer, (2) that so far as they are Homeric they show how little Homer understood what he was talking about, such agnosticism was sanity itself. But when the geographical and historical outlines of a 'Homeric Age' were recovered, a process in which Dr. Dörpfeld himself played a distinguished part, the problem of Ithaca loomed up again; and it became clear that excavation offered the only prospect of a solution. Accordingly in 1897 Dr. Dörpfeld visited the island, satisfied himself that of the alternative sites for a prehistoric settlement that at the north end, where the name *Polis* preserves the memory of the Hellenic town, was sufficiently in accord with Homeric phrases to deserve examination, and was so fortunate as to obtain from Dr. Goekoop, of the Hague, ample funds for the work. But even this first visit raised doubts whether this island, now called Thiaki, was really the Homeric Ithaca. The failure to find prehistoric remains at Polis—though excavation there does not seem to have gone very far—was offset by a growing conviction that the Homeric description pointed rather to Leucas. A hasty reconnaissance—*nur einmal flüchtig* are Dr. Dörpfeld's own words (p. 24)—seemed to support this theory; and when he brought his annual touring party into these waters in 1900, his mind seems to have been already made up. Certainly it was a piece of luck that a secluded cove and valley bore the name Syvota, 'swine-pasture', and that if Leucas was Ithaca the islet Arkudi would do nicely for the Homeric Asteris. And it was an important topographical discovery that Leucas had never been quite silted into contact with the mainland, and consequently would have been an island in Homeric times, as now. But was the prehistoric settlement, which had been vainly sought in Thiaki, actually in the soil of Leucas? The Nidri Plain, which lay conveniently, so far as the quite vague Homeric description went, seemed the proper district to explore; and excavation began here in 1901, and continued almost every season till 1913.

From this point onward it is essential for archaeologists to distinguish clearly between what was found or not found, and the interpretation which Dr. Dörpfeld has put on his finds. In the first place, though the district was certainly inhabited in prehistoric times, and is fertile enough to support a substantial hamlet, no buildings were found of which the plan, or even the shape, could be determined. On the slopes of the Amali Hill several fragments of rough foundation-walls (p. 202) were curved, and *may* have been 'oval-houses' of a type widely spread in peninsular Greece, and approximately dated. But the 'oval-house' belongs to a culture which had been superseded everywhere before the Minoan culture began to penetrate into the Greek mainland; and the Minoan culture was in its later decadence at the traditional date for the Trojan War, about 1200 B.C. The pottery and other relics of occupation around these foundations confirm this inference from their apparent shape. They have as much to do with the 'House of Odysseus' as a Roman villa in Britain with a Norman castle. Dr. Dörpfeld himself is careful to distinguish between architectural evidence in Leucas and the 'Phantasie-Plan', which he published in 1924 in his *Heimkehr des Odysseus*. Similarly, a large rubble platform on the Steno site is of a 'characteristic construction' (p. 200) which associates it with the

'royal graves' close by, but also dissociates it from anything Minoan or Mycenaean in style. As to its date, the 'royal graves' are sufficient evidence, as we shall see.

These 'royal graves' lie at Steno on the south side of the plain, below the Amali Hill and between the platform (above mentioned) and the entrance to Vlichos bay. They are small mounds, with circular rubble plinth, containing a cist grave or a jar with cremated remains. The pottery, of style unfamiliar when first excavated, is now recognizable as Early Helladic. Anywhere else in Greece it would be assigned to a period subsequent to the first diffusion of the Cycladic culture, but earlier than the spread of the Minyan, which elsewhere is securely dated between 2000 and 1500 B.C. These graves, whether 'royal' or not—and they are but poorly furnished and crowded, thirty-three of them, together—have therefore nothing to do with the period of Mycenaean decadence, which is well represented in the neighbouring island of Cephallenia, and sparsely even in Leucas itself in the stratified cave-deposit at Choirospilia ('pig-cave') overlooking Dr. Dörpfeld's 'Home of Eumaeus'.

Their remoteness from anything Homeric, or even Mycenaean, is independently established by another series of tombs, north of the plain, below Mt. Skaros. These are cist-graves, inserted irregularly in plinth-fenced mounds or platforms, one circular, one rectangular, and both subjected to later enlargement. In these graves the bodies were not cremated, and the pottery is a rough local variety of Minyan; to all appearance, therefore, considerably later than the 'royal graves', but nevertheless a whole period earlier than the Mycenaean remains in the district. Such cist graves are typically Minyan; but the plinth-fenced mounds resemble the construction of the 'royal graves', and may be an inheritance from that older ritual.

What is remarkable is that, if the other archaeological indications are of any significance at all, cremation and mound burial were practised in Leucas in 'Early Helladic' times; then cremation was replaced by interment in cist graves; and then (to judge from the pottery, especially) the circular plinth was replaced by a rectangular one.

Even if cremation be a characteristically 'Achaean' custom, as Dr. Dörpfeld's interpretation of these graves assumes, these 'Achaeans' of Leucas belong to different periods and cultures from anything which is regarded as 'Achaean' in the Aegean-ward districts of Greece. Moreover, the graves below Mt. Skaros have no cremations; and their contents prove them later than those at Steno, not earlier, as the 'Achaean' theory appears to require.

What Dr. Dörpfeld has done, then, is to establish an unusual and highly significant sequence of events in this remote north-westerly region of Greece; and the cave deposit at Choirospilia carries this sequence forward into Mycenaean times, and also back to the days of the 'painted-ware' culture of Thessaly, which preceded the spread of the 'Helladic'. But he has discovered nothing, except a few Mycenaean sherds from Choirospilia, which contributes to our knowledge of the centuries of Minoan exploitation of mainland Greece; still less for the Mycenaean decadence which followed it. Neither in Leucas nor in the traditional Ithaca has he discovered what was going

on in the 'Homeric Age'; still less does he offer an archaeological solution of the literary and topographical problem of the 'Home of Odysseus'.

J. L. MYRES.

Writings ascribed to Richard Rolle, Hermit of Hampole, and Materials for his Biography. By HOPE EMILY ALLEN. 9 $\frac{3}{4}$ x 6 $\frac{1}{4}$. Pp. xvi + 568. Published by the Modern Language Association of America. New York: Heath; London: Oxford University Press. 1927.

The revived interest in mysticism which has been a marked feature of the last twenty years has renewed the vogue of Richard Rolle, the most voluminous writer among medieval English mystics. There has been much writing about him of a more or less popular character, but his own works have remained difficult of access and uncertain in their attribution. Hitherto they have only been generally accessible in the two volumes rather confusedly put together by Horstmann in 1895-6. Certain of the English pieces have been edited by Canon Perry and others, and one Latin work, the *Incendium Amoris*, is available in an excellent edition by Miss M. Deanesly. But the serious study of Rolle's thought has been much hampered by the uncertainty (largely due to Horstmann's uncritical methods) as to what work was actually of his own composition. It has long been known to those interested in the subject that Miss Allen was at work on an attempt to establish a canon on sound principles. Her monograph on the Pricke of Conscience had shown good reason (further substantiated in the present book) for relieving Rolle of the authorship of that dull, but in the later Middle Ages extremely popular, poem. And the book now published carries her investigations over the whole field of his work. She has compiled a kind of Encyclopaedia of Rolle, and there can be few questions of interest to students of the subject on which she has not touched in one place or another. Her method is strict and businesslike. The various works attributed anywhere to Rolle are taken, so far as possible, in their chronological order, printed editions are indicated, then the manuscripts of each are studied and notes given on early references and quotations; finally an attempt is made to determine the authenticity of the work by tests of style, of content, and of congruity with the statements of the Office of Richard Hermit and the Comment on the Canticles, two texts of prime authenticity, and by any other available evidence. The latter part of the book is given up to a discussion of the materials for Rolle's biography, preceded by an account of medieval references and of the statements of the early bibliographers. This necessarily brief description does injustice to the various interest of the book, for, dealing with questions as they arise, Miss Allen displays a profound knowledge of her subject and of the world of medieval thought in which he moved. The close discussion of the subject-matter of Rolle's own work and of the works attributed to him makes the book a most valuable contribution to the history of religious literature in England in its period.

The present work is limited by its immediate purpose, which the author keeps scrupulously in view, the establishment of the canon, but it is much to be desired that Miss Allen would give us a continuous

account, less engaged in the technicalities of bibliographical discussion, of the life and thought of Rolle in relation to his time. It is clear that no one is better equipped for the purpose. Meanwhile all students of Rolle and of the theological literature in English manuscripts of the fourteenth and fifteenth centuries will be grateful for a book which will be constantly in their hands. Its use is made the easier for them by excellent indexes, including a valuable index of *Initia* contributed by Mr. J. A. Herbert, who has also edited for the book Thomas Basset's defence of Rolle from the Upsala manuscript. ROBIN FLOWER.

Periodical Literature

The British Museum Quarterly, vol. 3, no. 1, includes:—A Greek bronze head; Three Attic white lekythi; Excavations at Nineveh, 1927-8; An Egyptian royal statuette from Syria; Susian pottery; Babylonian and Egyptian accessions; An illustrated astronomical manuscript; The Awdry clog-almanack; Two seals of Tudor trading companies; An early map of Surrey; Correspondence of Cardinal Pole; Warren Hastings's duel with Philip Francis; A Grangerized history of Rutland; Greek coins; Coins of the Roman emperors Tacitus and Florianus; Ceramic acquisitions.

The Journal of the British Archaeological Association, vol. 33, part 1, contains:—Report of the Congress at Exeter, by Rev. P. H. Ditchfield; The Benedictine priory of St. Nicholas at Exeter, by Rose Graham; The buildings of the priory of St. Nicholas, Exeter, by L. Tonar; A misericord of the thirteenth century in Exeter cathedral, by P. M. Johnston; Notes on the Loan Collection, by F. R. Rowley; Grimspond, by Prebendary Chanter; Some account of the church of St. Peter, Tiverton, by Rev. E. S. Chalk; Bishopsteignton church, by P. M. Johnston; Dartington and its history; Berry Pomeroy castle, by H. R. Watkin; The monuments in Colyton church, by Rev. H. S. Wyatt; Compton castle, by H. R. Watkin; Devonshire churches: the buildings and builders, by Beatrix F. Cresswell; Architectural notes on some churches visited during the Congress, by H. Reed; St. Peter's church, Salcombe Regis; The Saxon windows in Hales church, Norfolk, by E. A. Kent; Font in the church of the Holy Trinity, Lenton, Notts.; Provincial Museums: v, Lancaster Museum, by T. Cann Hughes.

The English Historical Review, July 1928, contains:—Richard fitz Neal and the *Dialogus de Scaccario*, ii, by H. G. Richardson; Tenure in Frank Almoign and secular services, by Miss Elizabeth G. Kimball; The first Anglo-Russian Treaty, 1739-42, by Sir Richard Lodge; Fragments of an Anglo-Saxon Survey from Bury St. Edmunds, by D. C. Douglas; The earliest municipal charters of Coventry, by Prof. James Tait; The diary of John Greene, i, by Miss E. M. Symonds; Two unprinted letters of Henrietta Stuart, duchess of Orleans, by Keith Feiling; Some new evidence on wage assessments in the eighteenth

century, by Miss Elizabeth L. Waterman; The Osborne Conference and memorandum of August 1857, by W. G. East.

History, April 1928, contains:—Suger of St. Denis, by E. F. Jacob; Fact and fancy in the writing of history, by Mrs. C. S. Higham; The first school examination and the teaching of history, by C. H. K. Marten; Historical revisions: xlv, Trimoda Necessitas, by Miss Jeffries Davis.

Bulletin of the Institute of Historical Research, June 1928, contains:—Anglo-French Diplomatic relations, 1558–1603 (continued), by F. J. Weaver; Pascasius Valentini and the Frescobaldi, by Hilda Johnstone; An unpublished poem on Bishop Stephen Gardiner, by P. Janelle; Summaries of Theses: xxxiv, English embassies to France in the reign of Edward I, by Mary C. L. Salt; xxxv, A history of Clare, Suffolk, by Gladys A. Thornton; xxxvi, The administrative work of the lord chancellor in the early seventeenth century, by J. S. Wilson; xxxvii, Constitutional struggles in Jamaica, 1748–76, by J. W. Herbert; xxxviii, The beginnings of missionary enterprise: South Africa, 1795–1812, by Kathleen M. Reynolds; xxxix, The policy of the British government towards the South African Dutch republics, 1848–72, by C. W. de Kiewet.

Annals of Archaeology and Anthropology, University of Liverpool, vol. 15, nos. 1–2, contains:—Report on the excavations on the site of the Roman fortress, at the Deanery Field, Chester (no. 2), by R. Newstead; Trial excavations at Lancaster, by J. P. Droop and R. Newstead; Apollonius ὁ εἰδογράφος, by M. M. Gillies; Excavations at West Derby castle, Liverpool, by J. P. Droop and F. C. Larkin.

Journal of the Royal Anthropological Institute, vol. 58, January–June 1928, includes:—The introduction of civilization into Britain, Presidential address by H. J. E. Peake; Excavation of a Mousterian rock-shelter at Devil's Tower, Gibraltar, by Dorothy A. E. Garrod, L. H. Dudley Buxton, G. Elliot Smith, and Dorothea M. A. Bate, with appendices by R. C. Spiller, M. A. C. Hinton, and P. Fischer; Further note on bird chariots in Europe and China, by C. G. Seligman.

Antiquity, June 1928, contains:—Forerunners of the Romans, ii, by D. Randall-MacIver; Two great dolmens of Central France, by Vice-Admiral Boyle Somerville; The 'Children of the Sun' and Central America, by E. Thompson; Ancient cultivations at Grassington, Yorkshire, by E. Curwen; Our debt to Rome? by O. G. S. Crawford; The recent finds at Beisan, by A. Rowe; The Alexandrian Library, by G. H. Bushnell; Pillow-mounds; Explorations in the Libyan Desert; Historical Cycles; Meteorology and archaeology: Volubilis; Mediterranean rock-cut tombs; The cross of St. John, Iona; New camp on the Berkshire Downs; The Fayum; The Oriental Institute of Chicago University; The great cauldron of Frensham; Hadrian's wall; The antiquity of iron-working.

Journal of the Royal Institute of British Architects, vol. 35, no. 13, includes:—Further notes on the Parthenon, by E. J. Mager. No. 16 includes the Renaissance in Italy, by F. R. Hiorns.

The Architectural Review, May 1928, includes:—The English House: v, the thirteenth century (continued): roofs, by Nathaniel Lloyd.

June 1928, includes:—The English house vi, the fourteenth century, by Nathaniel Lloyd.

July 1928, includes: The English House, vii, the fourteenth century (continued), by Nathaniel Lloyd; The bicentenary of Robert Adam, by John Swarbrick; Notes on the tombstone of Longinus recently found at Colchester and on a thirteenth-century French Gothic head of Christ.

The Journal of the Society of Army Historical Research, April 1928, contains:—The Diary, 1774 to 1776, of Lieutenant John Barker, 4th (King's Own) Regiment of Foot, when stationed in Boston, North America; Captured flags in the Royal Hospital, Chelsea, by F. W. Barry; Egypt, 1801: a letter from a sergeant of the 28th Foot; The colours of the British Marching Regiments of Foot in 1751, by Lieut.-Colonel J. H. Leslie; Castles: i, Pontefract, by Lieut.-Colonel J. H. Leslie; Fort Ticonderoga, by S. H. P. Bell; The battle of Minden, 1 August 1759; The days of Corunna, by Brig.-General Sir Robert Colleton.

July 1928 contains:—The Diary of John Barker (continued); The death of Major-General James Wolfe: Captain S. J. Hollandt's letter, with introduction and notes by A. G. Doughty; The colours of the British Marching Regiments (continued); 'The Order of Shotinge with the Crosbow', with an introduction by Viscount Dillon; The graves of British soldiers at Concord, Massachusetts: a speech delivered by Mr. Allen French at Concord on 27 May 1928.

The Annual of the British School at Athens, vol. 27, contains:—Report on excavations at the Tomba and Tables of Vardaróftsa, Macedonia, 1926, by W. A. Heurtley and R. W. Hutchinson; Some note books of Sir William Gell, i, by A. M. Woodward and R. P. Austin; Excavations at Haliartos, 1926, by R. P. Austin; Finlay's 'History of the Insurrection in Crete', by W. Miller; A crowned head and a statue of a child from Mesopotamia, by A. W. Lawrence; On the Thermon metopes, by H. G. G. Payne; Arcadian bronze statuettes, by W. Lamb; Some new specimens of Byzantine music, by H. J. W. Tillyard; A statuette in private possession, by H. W. Law; Excavations at Sparta, 1926, by A. M. Woodward.

The Burlington Magazine, June 1928, includes:—An English horn with fourteenth-century mounts, by W. W. Watts.

July 1928, includes:—Pottery of the six dynasties, by R. L. Hobson; A carved mazer cup at South Kensington, by Joan Evans; The re-instatement of Myron, by C. K. Jenkins.

August 1928, includes:—Pottery of the six dynasties, ii, by R. L. Hobson; Further sculptures of the Westminster School, by J. G. Noppen; Seabags at Canterbury, by A. F. Kendrick.

Catholic Record Society, vol. 27, *Miscellanea*, contains:—The Catholic Registers of the Bambridge (afterwards Highbridge) mission, Hants, 1766-1869, by F. C. Baigent; Catholic Registers of the domestic chapel at Arundel castle, afterwards at the public chapel at Arundel, 1749-1835, followed by a list of burials in the FitzAlan chapel at Arundel, and a private register of burials there since 1866, by Major F. J. A. Skeet; The Catholic Registers of Abergavenny, Mon., 1740-1838, by J. H. Canning, with historical introduction by Rev. E. H.

Willson; Account of the life and death of Brother Alexis, called in the world Robert Graeme, a Scottish gentleman, by G. F. Engelbach; A list of guests at Everingham Park, Yorks., Christmas, 1662, by R. C. Wilton; Bambridge and Highbridge Registers, supplementary remarks and notes: memorandum on the establishment of the East-leigh mission, by Rev. J. Doran.

The Connoisseur, May 1928, includes:—Some more Devonshire Rood screen paintings, by W. G. Constable.

July 1928, includes:—King James II's wedding suit, by C. R. Beard; Some Persian and other Near-Eastern pottery in the collection of Mr. Frank Brangwyn, by W. B. Honey; Crackle and forgeries of Primitives, by A. P. Laurie.

August 1928, includes:—The Bysshe Claim, by F. Sydney Eden; Martha Edlin: a Stuart embroideress, by L. Ashton; Old Newcastle silver in Mr. Thomas Taylor's collection, by E. Alfred Jones; Armour and the New English Dictionary, by C. R. Beard.

The Journal of Egyptian Archaeology, vol. 14, parts 1 and 2, contains:—The statues of Sennemut and Menkheperre 'senb in the British Museum, by H. R. Hall; Akhenaten's eldest son-in-law, 'Ankhkheprure', by P. E. Newberry; The graffito from the tomb of Pere, by A. H. Gardiner; A heart scarab of the Mnevis bull, by W. Spiegelberg; Greek sightseers in Egypt, by M. Rostovtzeff; Observations on the chronology of the Roman emperors in the second half of the third century, by A. Stein; with a note by H. Mattingly; Chronological pitfalls, by J. G. Milne; On Egyptian fish-names used by Greek writers, by D'Arcy W. Thompson; An agricultural ledger in P. Rad, 95, by M. Schnebel; An ivory sphinx from Abydos, by J. Garstang; Who succeeded Rameses IX—Neferkeré?, by G. Botti; The chronological problems of the twentieth dynasty, by T. E. Peet; Objects of Tutankhamun in the British Museum, by H. R. Hall; The new Ptolemaic papyrus containing parts of *Iliad*, xii, 128–263, by G. M. Bolling; The sons of Tuthmosis IV, by P. E. Newberry; An Egyptian split infinitive and the origin of the Coptic conjunctive tense, by A. H. Gardiner; Notes on the early history of tin and bronze, by A. Lucas; Miscellanea, by P. E. Newberry; Some potsherds from Kassala, by J. W. Crowfoot; Note on the sculptured slab no. 15000 in the Berlin Museum, by P. E. Newberry; Five leases in the Princeton collection, by H. B. van Hoesen and A. C. Johnson; Note on an ancient Egyptian figure, by W. R. Dawson; David George Hogarth, by H. R. Hall; Bibliography.

Ancient Egypt, March 1928, contains:—Egyptian use of beer and wines, by A. Lucas; Capsians and Badarians, by Prof. V. G. Childe; The Dying God, by Miss M. A. Murray; The introduction of Christianity in the Rhineland, by L. B. Ellis; Refreshing in the Underworld, by L. B. Ellis.

The Geographical Journal, July 1928, includes:—The Antonine Itinerary of the Aurelian road between Aix and Arles, by R. D. Oldham.

August 1928 includes:—Two more ancient monuments in Southern Kurdistan, by C. J. Edmonds.

The Journal of Hellenic Studies, vol. 48, part 1, contains:—A

forgotten Epigraphist, by M. N. Tod; The Daimon of the Persian king, by Lily Ross Taylor; An Attic cistern front at the British Museum, by W. R. Lethaby; Ikaros and Perdix on a fifth-century vase? by H. J. Rose; Red-figured vases recently acquired by the Hermitage Museum, by Anna Peredolski; Notes on Ruler-Cult, i-iv, by A. D. Nock; An unedited funeral monument, by C. R. Haines; Anatolica Quaedam, by Sir W. M. Ramsay; Cleostratus and his work, by E. J. Webb; Minoan fayence in Mesopotamia, by H. R. Hall; The Greek drama in Crete in the seventeenth century, by J. Mavrogordato.

Proceedings of the Huguenot Society of London, vol. 13, no. 5, contains:—Presidential address, by Sir W. J. Collins; Marie de la Rochefoucauld de Champagne and her escape from France in 1687, by T. P. Le Fanu; The French colony and church at Sunbury-on-Thames, by C. E. Lart; The French-Walloon church at Glastonbury, 1550-53, by H. J. Cowell; La Société de l'Histoire du Protestantisme Français; The Library of the French Protestant Hospital, by W. Minet; Notes from France; French church at Maldon, Essex; Louis Crommelin; A Huguenot family in Germany; A Huguenot Society for South Africa.

The Library, vol. 9, no. 1, contains:—Marks as Signatures, by C. Sisson; The position on the sheet of early watermarks, by E. Heawood; Caxton's son-in-law, by W. J. Blyth Crotch; A Chester bookseller's lawsuit of 1653, by R. Stewart-Brown; Recent bibliographical work in America, by L. C. Wroth; The new Caxton Indulgence, by A. W. Pollard; A note on 'A New Interlude', by R. Steele.

The Mariner's Mirror, vol. 14, no. 3, contains:—The Journal of Grenvill Collins, by Florence E. Dyer; English galleys in 1295, by R. C. Anderson; Naval action between the Portuguese and Dutch in India, 1654, by C. R. Boxer; Hughes and Suffren, by C. Suffern; Stunsails on the foremast, by R. C. Anderson; Introduction of Tea; Dug-outs; Seamen's uniform; Nautical slang; Decorated sails; An Anglo-Danish incident in 1694, by Florence E. Dyer; German models; Official ship models; Capital ship; Schooner, by C. W. Ashley; Wind indicators; Liner.

Miscellanea Genealogica et Heraldica, vol. 6, part 10, contains:—Abstracts of early unpublished Wingate wills, by J. H. Blundell; The Poure family of Oxfordshire, by G. A. Moriarty; Lanier, by Sir Lionel Cust; Houghton of Middleton and Liverpool: Houghton wills and administrations; Genealogical Notes and Queries; Abstracts of fifteenth-century wills in the Consistory Court books of the diocese of Hereford; Pedigree of Byseley, Bisley, or Beazley of Newington and Warborough, co. Oxon., Ryde and Alverstoke, co. Southampton, and Oxtou, co. Chester, by F. C. Beazley.

The Naval Miscellany, vol. 3 (*Publications of the Navy Records Society*, vol. 63), contains:—Naval operations in the latter part of the year 1666, edited by R. C. Anderson; The land forces of France, June 1738, edited by Vice-Admiral Sir H. W. Richmond; The action between H.M.S. *Lyon* and the *Elisabeth*, July 1745, by H. H. Brindley; The Channel Fleet in 1779: Letters of Benjamin Thompson to Lord George Germain; The engagement between H.M.S. *Brunswick* and *Le Vengeur*, 1 June 1794; Letters of Lord Nelson, 1804-5; The

second capture of the Cape of Good Hope, 1806; The Salute in the Narrow Seas and the Vienna Conference of 1815; Two letters from Blake to Mountague, 1656-7, edited by G. E. Mainwaring; Instructions to Captain Cook for his three voyages; The Bombardment of Copenhagen, 1807—Journal of Surgeon Charles Chambers of H.M.S. *Fireship Prometheus*.

Transactions of the Oriental Ceramic Society, 1926-27, contains:—A plea for lead glazes of the Sung dynasty, by J. N. Collie; Chinese porcelain fragments from Aidhab, and some Bashpa inscriptions, by R. L. Hobson; An account of the examination of some specimens of ying chi'ng porcelain, by Sir Herbert Jackson.

The Journal of Roman Studies, vol. 17, part 1, contains:—The ruin of Egypt by Roman mismanagement, by J. G. Milne; A Roman sarcophagus at Pawlowsk and its fellows, by J. Toynbee; Military forces in the senatorial provinces, by E. Ritterling; Augustan edicts from Cyrene, by J. G. C. Anderson; Asia Minor, 1924, iv, by W. H. Buckler, W. M. Calder, and C. W. M. Cox; Sepulchral architecture as illustrated by the rock façades of central Etruria, ii, by G. Rossi; Thracian tribes in Scythia Minor, by S. Casson; On the date of the Notitia Dignitatum, by F. S. Salisbury; Note on some fragments of Imperial statues: a postscript, by Sir George Macdonald.

Transactions of the Bristol and Gloucestershire Archaeological Society, vol. 49, contains:—Herefordshire, Presidential address, by G. McN. Rushforth; The dispossessed religious of Gloucestershire, by G. Baskerville; Gloucestershire fonts, part xvii, by A. C. Fryer; Berkeley castle, by the Earl of Berkeley; The Campden mystery, by Sir F. Hyett; A seventeenth-century house and chimney-piece in Small street, Bristol, by H. C. M. Hirst; Deerhurst priory church, including the result of the excavations conducted during 1926, by W. H. Knowles; Flaxley Grange and St. White's, by May H. Ellis; Effigies of the Stratford family at Farmcote, Gloucestershire, by Ida M. Roper; Gloucestershire Cartulary: i, concerning the priory of Stanley St. Leonard, by Rev. C. Swynnerton; The painted glass in the Lord Mayor's chapel, Bristol, by G. McN. Rushforth; Proceedings of the meetings at Bath, Corsham, and Hereford.

Records of Buckinghamshire, vol. 12, no. 2, contains:—Report on human remains from a gravel-pit near Fenny Stratford, by Sir Arthur Keith; Remains of former church at Chalfont St. Peter, by E. C. Rouse; The rector of Bletchley, 1715-27, by W. Bradbrooke; Haddenham during the Civil War, by G. Eland; The parish of Granborough, by C. E. Martin; Note on a gold ring found at Chalfont St. Peter, by E. C. Rouse.

The Essex Review, July 1928, includes:—Samuel Prout in Essex, with notes by Miss C. Fell Smith; A nineteenth-century Hecate, by Mrs. Gregory Nicholson; The Essex jug, by Miss C. Fell Smith; Chigwell and Chigwell Row, by Mrs. Charlotte Mason; The chapel of St. James in Bocking, by A. Hills; Stained glass formerly at New Hall, by A. Hills.

Halifax Antiquarian Society: Papers, 1927, contains:—Ancient highways of the parish of Halifax, by W. B. Crump; The Bache in Warley, by H. P. Kendall; Further notes and comments on the

Halifax churchwardens' accounts, 1714-1832, by J. W. Houseman; Brownhirst and the Bairstows, by W. B. Trigg; Sod House Green, by W. B. Trigg; Abel Cross and the hamlet of Shackleton, by H. P. Kendall; The Elland churchwardens' accounts, by E. W. Crossley; Some local Star Chamber cases, by J. Lister.

Transactions of the Historic Society of Lancashire and Cheshire, vol. 78, contains:—The monumental brass of William Latham, 1532, by P. Nelson; Fire Insurance in Liverpool, by P. C. Brown; Euxton chapel, by F. H. Cheetham; Notes on the early Crooks of Crook, Whittle-le-Woods, by F. Crooks; The hospital of St. John at Chester, by R. Stewart-Brown; Further notes on the Penkett family, by E. C. Woods; Bell ringing orders at Preston church, 1587-8, by F. H. Cheetham; The excavations at Hilbre, 1926, by Prof. R. Newstead; Wirral Records: supplement, by F. C. Beazley; Liverpool's second directory, 1767, by G. T. Shaw.

St. Albans and Hertfordshire Architectural and Archaeological Society Transactions, 1927, contains:—Catalogue of field names occurring on the Hertfordshire estates of the Earl of Verulam and mentioned in documents preserved at Gorhambury, by Rev. C. Moor.

Proceedings of the Somersetshire Archaeological Society, vol. 73, contains:—Old Chard, by Col. J. W. Gifford; History of Combe St. Nicholas, by Rev. G. de Y. Aldridge; Some notes on Tatworth, by Rev. F. E. W. Langdon; Thomas Chard, D.D., last abbot of Ford, by Prebendary D. J. Pring; Whitelackington and the duke of Monmouth in 1680, by H. St. George Gray; The historical evidence as to the Saxon church at Glastonbury, by Very Rev. J. Armitage Robinson; Two seventeenth-century manor houses, by Lord Hylton; Bridgwater and the Insurrection of 1381, by T. B. Dilks; On some doubtful dedications of Somerset churches, by Very Rev. J. Armitage Robinson; Michell of Cannington, by G. B. Michell; Glastonbury abbey excavations, 1927, by Theodore Fyfe; Ancient monuments in Somerset, by Dom E. Horne; Anglo-Saxon coins in Taunton museum, by H. Symonds; Roman bronze coins found at Clapton-in-Gordano, by H. Symonds; Roman remains in Rodney Stoke moor; Kingsdown camp, Mells, 1927, by H. St. George Gray; Kilmersdon Road quarry, Radstock, by A. Bulleid; The Saxon charters of Somerset, part 1, by G. B. Grundy. The volume also contains a full report of the Society's annual meeting at Chard in July 1927.

Proceedings of the Suffolk Institute of Archaeology, vol. 19, part 3, contains:—St. Saviour's Hospital, Bury St. Edmunds, by E. R. Burdon; Medieval mural paintings, by Rev. H. A. Harris; List of Suffolk churches with mural paintings, by Rev. H. A. Harris; Some pedigrees of Denny, Le Denneys, &c., by Rev. H. L. L. Denny; Antient Tales in Aryan numeration, by G. H. Hunter; The Burgate Hall charters, by Rev. E. Farrer; Brass of John Thurston at Cavenham, by Rev. H. T. Green; Church plate, Shelland, by Rev. H. Coppinger Hill.

Surrey Archaeological Collections, vol. 37, part 2, contains:—Surrey Place-Names: ii, River-names, by A. Bonner; Excavations at Ashted, Surrey, by A. W. G. Lowther; The Banstead Court Roll in the reigns of Richard II and Henry IV, by Sir H. C. M. Lambert; Excavations at Farley Heath, Albury, 1926, by S. E. Winbolt; The Parliamentary

Surveys of Surrey, by S. J. Madge; The Saxon church at Kingston, by W. E. St. Lawrence Finny; A Romano-British burial-ground at Wotton, by W. Hooper; Vernon House, Farnham, by Rev. H. R. Huband; Surrey Museums, by D. Grenside; Primitive man at Sunbury, by W. E. St. Lawrence Finny; Pygmy flints from Reigate, by W. Hooper; Flint sites in Chiddingfold, by B. C. Halahan; Stane street, by S. E. Winbolt; Roman millstone from Bramley, by W. F. Rawnsley; Discovery of a Roman skeleton near Banstead; Third-century coin from Farnham, by J. G. Milne; Roman kiln at Farnham; Medieval jug from Earlswood, by W. Hooper; Base of a glass goblet from Chiddingfold, by B. C. Halahan; St. Mary's church, Merton, by F. T. Baggalley; Discoveries at Chertsey abbey, by E. Gardner.

Sussex Notes and Queries, vol. II, no. 2, includes:—The Roman road to Portslade, by Mary S. Holgate; The Selsfield-Hassocks Roman road, ii, by S. E. Winbolt; The boundary between Sussex and Kent, ii, The Lamberhurst area, by F. B. Stevens; Horsham churchwardens' account book, by R. Garraway Rice; The text of Ceadwalla's charter, by W. D. Peckham; Sussex entries in London parish registers, by W. H. Challen; The Angmering Roman villa and the Brighton Drove road, by E. C. Curwen; Place-names—Framfield, by H. W. Keef; Parish church of St. Peter, Hamsey; Two horse cases and a brawler, fourteenth century; The manor of Eston, Little Horsted; The custom of Borough English, by W. D. Peckham; Election expenses, Lewes, 1727; A Shoreham seal, by F. Lambarde.

William Salt Society's Collections, 1926, contains:—A register of Stafford and other local Wills; Chancery Proceedings, temp. Elizabeth; An ancient earthwork at Huntley Hall near Cheadle, by G. C. O. Bridgeman; Two early Staffordshire deeds, by Rev. C. Swynnerton.

The Wiltshire Archaeological Magazine, vol. 44, June 1928, contains:—Polished flint knives, with particular reference to one recently found at Durrington, by R. C. C. Clay; Pre-Roman coffin burials with particular reference to one from a barrow at Fovant, by R. C. C. Clay; Thomas Duckett and Daniel Bull, members for Calne, by L. B. Namier; Two shale cups of the Early Bronze Age and other similar cups, by R. S. Newall; Beaker and food vessel from barrow no. 25, Figheldean, by R. S. Newall; Objects found during excavations on the Romano-British site at Coldkitchen Hill, Brixton Deverell, 1927, by R. de C. Nan Kivell; Notes on Clyffe Pypard and Broad Town, by the late Canon F. Goddard.

Worthing Archaeological Society: Sixth Annual Report, March 1928, includes:—Hoard of Bronze Age axes found at Worthing, 1928, by Marian Frost.

The Yorkshire Archaeological Journal, vol. 29, part 2, contains:—Early sculptured stone at York; Viking axe-head found near Harrogate; The chantry chapels of Wakefield, by J. W. Walker; The Ripon carvers and the lost choir-stalls of Bridlington priory, by J. S. Purvis; Ancient heraldry in the deanery of Catterick, by Rev. C. V. Collier and Rev. H. Lawrance; The Roman camps at Cawthorn near Pickering, by I. A. Richmond; An appreciation of the late Mr. I'Anson's work on Yorkshire effigies, by J. G. Mann; Recent discoveries at Sutton-on-Derwent (a coffin chalice and paten), by J. W. Walker; A

cross-fragment at Sutton-on-Derwent, by W. G. Collingwood; A stone panel (of St. George and the Dragon) at Sutton-on-Derwent; The foundation of Bridlington priory.

Annual Report of the Yorkshire Philosophical Society, 1927, includes:—Thomas Magnus, 'archideacon of Thest Rydyng', by J. S. Gayner; An Anglian glass vessel in the Yorkshire museum, by C. E. N. Bromehead.

The Scottish Historical Review, July 1928, contains:—Franck's *Northern Memoirs*, by Sir C. H. Firth; Rispaing Camp, near Whithorn, by Sir Herbert Maxwell; The Founders of the Company of Scotland, by G. P. Irish; St. Madoes and its clergymen, by Rev. R. H. R. Liddell; Dress of the Jacobite army, by Sir Bruce Seton; George III, by Prof. B. Williams; The Scottish Trader in Sweden, by Hon. G. A. Sinclair; Scottish Parliaments of Edward I, by H. G. Richardson and G. Sayles; Monastic history, by G. G. Coulton; Scottish students at Louvain University, by Prof. J. H. Baxter; The Bull *Cum Universi*, by A. O. Anderson; Macbeth's relationship to Malcolm II, by A. O. Anderson; Translation of the *Liber Pluscardensis*, by R. Somerville; Bach and Scotland, by C. S. Terry; General Stuart, by G. Mackay; W. H. Stevenson, by V. H. Galbraith; Tanistry in United Scotland, by A. O. Anderson; The dating passage in Gildas's *Excidium*, by A. O. Anderson; The Elizabethan Intelligence Department, by J. D. Mackie; A Scottish student at Caen, by Prof. J. H. Baxter; The date of the second marriage of Robert Bruce the Claimant, by G. Sayles; Livingstones or Douglasses? by E. B. Livingston; Iona and the 'Reforming synod', by J. H. Stevenson.

History of the Berwickshire Naturalists' Field Club, vol. 26, part 2, includes:—Some notes on justice on the Border, by Captain Fullarton James; An heraldic panel at Roseden, by J. H. Craw; a phase of Border history, by J. L. Hilson.

Publications of the Clan Lindsay Society, vol. 3, no. 11, contains:—The Lindsays of Kinnettles, by J. Lindsay; Thomas Lindsay, archbishop of Armagh, by Hon. E. R. Lindsay; Patrick Lindsay, the Jacobite; Extracts from old Registers, by the Hon. E. R. Lindsay.

Proceedings of the Royal Irish Academy, vol. 38, section C, nos. 1-4, contain:—Some notes on the households of the Dukes of Ormonde, by F. Elrington Ball; Notes on some objects in the national collection of Irish antiquities, by Walther Bremer; Notes on the history of the Book of Lecan, by the Marquis MacSwiney of Mashanaglass; the offices of Secretary of State for Ireland and Keeper of the signet or privy seal, by Herbert Wood.

Journal of the Royal Society of Antiquaries of Ireland, vol. 58, part 1, contains:—The earliest Lives of St. Patrick, by E. MacNeill; Some old silver chalices connected with the counties of Galway and Sligo, by M. J. Blake; The chapel of Dublin castle, by Very Rev. H. J. Lawlor; Excavation of a Ring Fort at Tiravera, co. Monaghan, by R. A. S. Macalister; List of the wayside crosses near Fore, co. Westmeath, by H. S. Crawford; Church of White Island, Lough Crue; The fort of Duagh, co. Waterford.

Archaeologia Cambrensis, vol. 83, part 1, contains:—The Caerleon Amphitheatre: a summary, by Tessa Verney Wheeler; Offa's Dyke:

a Field Survey (third report), by Cyril Fox; Giraldus Cambrensis: 'Speculum Duorum', by W. S. Davies; Corston Beacon: an early Bronze Age cairn in south Pembrokeshire, by Cyril Fox and W. F. Grimes; Shell mounds and winkle pins, by T. C. Lethbridge; Distribution maps and early movements into Britain and their relation to legendary history, by S. Harris; A Bronze Age cup from Breconshire, by C. E. Vulliamy; Romano-British brooch from Penmaenmawr, by W. F. Grimes; Stone axe from Trefor quarry, Caernarvonshire, by W. F. Grimes; Fourteenth-century stoup belonging to St. Mary's church, Brecon, by Gwenllïan E. F. Morgan; A brooch of the 'Dark Ages' from Kenfig, by T. C. Lethbridge and H. E. David; Bronze palstave from the Berwyns, by Lily F. Chitty; Rice and Thomas, sons of John ap Rice Wynn, of Ceirchiog, Anglesey, by C. Gwyn; Celts found at Pembroke, by A. G. O. Mathias; Discovery of English coins, Bodfari; Bronze halberd said to have been found in Shropshire, by Lily F. Chitty; A sepulchral slab in St. Mary's church, Brecon, by Gwenllïan E. F. Morgan; The road books of Wales; Remains of circular hut at Llanystumdwy, by H. H. Hughes; The provenance of the gold torc preserved at Eaton Hall; Bronze spear-head found near Mellington, Montgomery, 1927, by Lily F. Chitty; Perforated stone axe-hammers found in Carnarvonshire, by Lily F. Chitty; A Denbighshire sacring-bell; Bishop Humphrey Humphreys.

Montgomeryshire Collections, vol. 40, part 3, contains:—Excavations of the Powysland Club at the Forden Gaer, by F. N. Pryce and T. Davies Pryce; Suggestions for further study of Montgomeryshire, by R. U. Sayce; Churchstoke and its townships, by G. Mountford; Some former Kerry landowners, by J. B. Williams; Potsherd from the Kerry Hills; A shell-marl deposit in Montgomeryshire, by W. J. Pugh; Shropshire and Montgomeryshire Borderland, by E. Estyn Evans.

Transactions of the Anglesey Antiquarian Society and Field Club, 1928, includes:—Prehistoric discoveries in Newborough Warren, by T. Pape; Princess Joan's coffin at Baron Hill, Beaumaris, by G. G. Holme; James de Sancto Georgio, master of works to King Edward I in Wales and Scotland, by W. Douglas Simpson; Handlist of documents (1431-1840) in the manuscript department of the Cardiff Public Libraries relating to Anglesey, by H. Farr; An Anglesey sea captain, by H. Beaver; Capel St. Ffraid, Towyn y Capel, by E. Neil Baynes, Sir Arthur Keith, and Miss M. L. Tildesley; A list of Anglesey Wills (1635-70), by Hugh Owen; Anglesey Folklore, by E. Neil Baynes; The Skerries Lighthouse, by H. R. Davies; Anglesey Druidical Society; Capel Eithin; One Penny token of Parys Mountain Company; Glain Neidr; Graves near Llechcynfarny church; A white-washed maenhir.

Transactions of the Cardiff Naturalists' Society, vol. 59, includes:—The Beaupré porch, by Cyril Fox; Welsh vineyards, by A. A. Pettigrew.

The Indian Antiquary, May 1928, contains:—Deva Raya II, by S. Srikanta Sastri; Buddhist women, by Dr. Bimala Churn Law; Notes on currency and coinage among the Burmese, by Sir R. C. Temple; The Sauraseni and Magadhi stabakas of Rama-Sarman (Tarkavagisa), by Sir G. A. Grierson.

June 1928 contains:—Vedic Studies, by A. Venkatasubbiah; Thomas Cana, by T. K. Joseph; Notes on piracy in eastern waters, by the late S. C. Hill.

July 1928 contains:—Thomas Cana, by T. K. Joseph; Notes on currency and coinage among the Burmese, by Sir Richard Temple; Notes on piracy in eastern waters, by the late S. C. Hill.

August 1928, contains:—The Gāydānr festival in the Shahabad district, Bihar, by C. E. A. W. Oldham; Meaning and etymology of Puja, by Chintaharan Chakravarti; Vedic studies, by A. Venkatasubbiah; Notes on currency and coinage among the Burmese, by Sir R. C. Temple; Notes on piracy in eastern waters, by the late S. C. Hill.

Epigraphia Indica, vol. 19, parts 2, 3, and 4, contain:—Inscription of the time of Hammir of Ranthambhor, dated (V.S.) 1345, by R. R. Halder; Ahar stone inscription, by Daya Ram Sahni; Jejuri plates of Vinayaditya, by Prof. D. R. Bhandarkar; Seven inscriptions from Mathura, by Daya Ram Sahni; The Kalvan plates of Yasovarmman, by R. D. Banerji; Amoda plates of the Haihaya king Prithirdeva I, by Rai Bahadur Hiralal; Takkolam inscription of Rajakesarivarman, by K. V. Subrahmanya Ayyar; Further note on the Bezwada pillar inscription of Yuddhamalla, by J. Ramayya Pantulu; The Kandukuru plates of Venkatapatideva I, by G. V. Srinivasa Rao; Mathura pedestal inscription of the Kushana year 14, by Daya Ram Sahni; Patna Museum plates of Somesvara II, by R. D. Banerji; Rithapur plates of Bhatattavarman, by Y. R. Gupte; Two inscriptions of the Pallava king Rajasimha-Narasimhavarman II, by V. Rangacharya; Two lost plates of the Nidhanpur copper-plates of Bhaskaravarman, by Padmanatha Bhattacharya; The second half of a Valabhi grant of Samvat 210, by D. B. Diskalkar; The Sohawal copper-plate inscription of the Maharaja Sarvanatha—the year 191, by R. R. Halder; Peyalabanda grant of Krishnaraya, by Y. R. Gupte; Vishmagiri plates of Indravarmadeva, by the late Tarini Charan Rath; Two copper-plate inscriptions of eastern Chalukya princes, by the late K. V. Lakshmana Rao; Panchadarala pillar inscription of the Kona king Choda III, by J. Nobel; Panchadarala pillar inscription of the eastern Chalukya king Visvesvara, by J. Nobel; A fragmentary Pratihara inscription, by D. B. Diskalkar; An old plate of Paramara Siyaka of Vikrama-Samvat 1026, by D. B. Diskalkar; Six inscriptions from Kolur and Devageri, by L. D. Barnett.

Ceylon Journal of Science, Section G., Archaeology, Ethnology, etc., vol. 1, part 4 includes:—Archaeological summary, by A. M. Hocart; Epigraphical summary, by S. Paranavitane.

American Journal of Archaeology, vol. 32, no. 2, contains:—The coming of the Greeks: i, the geographical distribution of pre-Greek place names, by J. B. Haley, ii, the geographical distribution of pre-historic remains in Greece, by C. W. Blegen; Basilica Aemilia, by W. B. McDaniels; A metrical inscription from the necropolis of Eutresis, by Hetty Goldman.

Bulletin of the Museum of Fine Arts, Berlin, June, 1928, includes:—The Warren collection of engraved gems.

August 1928, contains:—A medallion of Byzantine cloisonné enamel;

Two Chinese Buddhist dedicatory groups; An Egyptian portrait head of the XII dynasty; Prophets and apostles in the Creed tapestry.

Old-Time New England, vol. 19, no. 1, contains:—The Adams mansion: the home of Presidents John Adams and John Quincy Adams, by H. Adams; Early whitewood furniture, by A. L. and Kate G. Winton; Ancient carpenter's tools, viii, by H. C. Mercier; The London Survey Committee, by P. W. Lovell.

Mitteilungen der Anthropologischen Gesellschaft in Wien, Band 58, Heft 3 and 4, includes:—Skulls of the period of the Hungarian conquest, by J. Gaspar; Mandible of La Tène age from Dürrnberg, by H. Poch; Wodan in German folk-tradition, by Alexander Mahr; Excavations at St. Paul in Carinthia, by R. Strelli; Earthworks in the eastern Viennese quarter of Lower Austria, by H. P. Schad'n; The palaeoethnology of the East: v, the first appearance of the Indo-germans in Further Asia, by V. Christian; A Hallstatt cemetery at Klein-Rust, Fladnitztal, Lower Austria, by J. Bayer.

Académie Royale de Belgique: Bulletin de la Commission Royale d'Histoire, vol. 91, bulletin 3, contains:—The execution of Louis de Luxembourg, comte de Saint-Pol, in 1475, by E. Poncelet.

Académie Royale de Belgique: Bulletin de la Classe des Lettres, vol. 14, nos. 3, 4, 5 include:—The Duchess Aleyde of Brabant and the *De regimine Iudaeorum* of Saint Thomas Aquinas, by H. Pirenne; Maximilian Transsylvanus, humanist, and secretary to Charles V, by A. Roersch.

Annales de la Société archéologique de Namur, vol. 38, part 1, contains:—Prehistoric archaeology, observations on discoveries made in the province of Namur, by M. De Puydt; The family of Grand-Leez, Henri de Leez, bishop of Liège, 1145-64, by C. Roland; The privileges of the ironworkers of Namur under the *ancien régime*, by M. Masoin; Pierre Charles Huart, by A. Huart; The last inaugurations of sovereigns at Namur, by Comte C. de Villermont; The sculptor Pierre François Le Roy and his protectors, by F. Courtoy.

Suomen Museo, vol. 34, contains:—The Bronze Age in the South Russian Steppes, by A. M. Tallgren; A Roman cemetery at Wiita-saari, by A. Europaeus; The evolution of the dwelling-house in northern Middle Finland, by A. Hämäläinen; Pig breeding by the Finns during the winter, by E. A. Virtanen; Finnish timber churches, by A. W. Rancken.

Vol. 35 contains:—The pedigree of Perman bronze idols, by A. M. Tallgren; The origin of the Lapp four-cornered cap, by T. I. Itkonen; Estnian food, by I. Manninen; The deity of the Mordwine, by A. Hämäläinen; Animal-headed weapons in the National Museum, by A. Europaeus; Finnish 'ring swords', by A. Hackman; The Hattelmala hoard, by J. Ailio; Prehistoric weights in the Finnish National Museum, by M. Kampman; The technique of bronze spiral ornament, by T. Vahter; Textile fragments from the cemetery of Humikkala, by S. Pälai; Snowshoes from Herajoki, by U. T. Sirelius; The geological determination of the age of the snowshoe find from Herajoki, by V. Auer; The Saint Olav monastery in Åbo, by J. Rinne; Finnish war flags since 1809, by K. K. Meinander; The Villa Hagasund, by A. W. Rancken.

Bulletin de la Société nationale des Antiquaires de France, 1927, nos. 2, 3 and 4, contain:—Armorial tiles from Chantemerle, by the Marquis de Baye; The supposed symbolism of the deviation of the axis of churches, by L. Germain de Maily; Books of Hours with the arms of families of Picardy and Artois, by M. Prinnet; Catalogue of potters' stamps found at Reims, by L. Demaison; Excavations in the baptistry at Aix-en-Provence, by J. Formigé; An antique silver dish in Valenciennes Museum, by E. Michon; Origin of the word *parvecia*, by P. de Labriolle; False joints in the drums of antique columns, by J. Formigé; The chronogram on the clock of the Palace, Paris, by R. Rodière; The hospice of Saint-Ange, Rome, by Edith Hewitt; The identification of the portrait of an abbess of the sixteenth century in the Louvre, by G. Huard; The decorative motive known as the fish scale, by J. Formigé; A sarcophagus carved with a representation of the hunt of Hippolytus recently rediscovered at Bourg-Neuf-Val-d'Or, by E. Michon; Antique statuettes left in the rough for a decorative overlay, by J. Formigé; Correction of the reading of an inscription from Grumentum, by G. Cantacuzène; The church at Vignory, by F. Deshoulières; Jade heads in the Musée Cernuschi, by I. de Mély; Excavations at Montcaret and Orange, by J. Formigé; Two antique bronze veterinary instruments, by G. Lafaye; Exportation of ancient sculptures to America, by E. Michon; Correction of the meaning of the phrase 'taille du pain et du vin', by A. Dieudonné; Restoration of a Roman chariot, by H. D'Allemagne; The source of Virgil's description of the tortures invented by Mezentius, by J. Carcopino; The epitaph of Lepidianus, bishop of Madaura, by E. Albertini; Excavations in the castle of Montjoye, by P. Lauer; A terra-cotta *pugillaris* from Rapidum, by E. Albertini; Tapestries at Anglards de Salers, by A. Mayeux; A sculptured tympanum at Mauriac, by A. Mayeux; The tomb of abbot Aymon de Mollain at Luxeuil, by A. Philippe; Gladiators' *tesseræ*, by J. Rabelon; The epitaph of Marcellus and Octavia recently found in Rome, by J. Carcopino; Roman altars found at Milles, by P. Couissin; An Iron Age burial at Larchant, by R. Lantier; Explanation of the signature of the Grand Bastard of Burgundy, by F. de Mély; Bas-reliefs from Gaillon recently acquired by the Cluny Museum, by J. Marquet de Vasselot; Graffiti from the Constance tower at Aigues-Mortes, by H. de Gérin-Ricard; Sculptured stone from Montmaurin, by Comte de Saint-Perrier.

Revue Archéologique, vol. 26, Octobre-Décembre 1927, contains:—A miracle of Achilles in the island of Leuce, by J. Tolstoi; The Zodiacal calendar of Chartres and Mithraic influences, by L. E. Lefèvre; The ornamentation of Roman lamps, by W. Deonna; The St. Agatha inscription on old bells, by L. Boiteux; The paintings at Athos, by G. Millet; The lesson of Delphi, by M. Meunier.

Vol. 27, Janvier-Avril 1928, contains:—The largest Magdalenian carving with cut-out outline, by E. Passemar and the Abbé Breuil; Scipio's camps before Numantia, by S. Gsell; The Syren, woman fish, by W. Deonna; A gold funerary fillet in the Geneva Museum, by W. Deonna; Some types of the nude goddess found at Karnak, by M. Pillet; Laconian-Cyrenian vases, by C. Dugas; The origins of

Sumerian civilization, by A. Hertz ; The legend of the king of Mercia, by M. Rosenberg ; The sword god of Iasili-Kaia and the cult of the sword in antiquity, by P. Couissin ; Commentary on *Aeneid* iv, 483-6, by A. I. Trannoy ; An unpublished thirteenth-century miniature reproducing a lost work of Pietro Cavallini, by A. Busnioceanu ; Dutch archaeology ; The statue of Aphrodite with the dove in the Louvre ; Jerusalem of the Arabs.

Vol. 27, Mai-Juin 1928, contains :—The trial and sale of oil on painted vases, by B. Laum ; Some Sassanid coins, by D. J. Parnck ; The Franks and Armorican Brittany, by S. Reinach ; Cadmus and the Spartans, by G. Poisson ; The Glozel glass furnace, by Madeleine Massoul ; The dress of a centurion (*crista transversa*), by M. Durry ; A military altar in the Villa Medici, by M. Durry ; The Clyde inscriptions, by F. W. G. Foat ; A book dealing with the ornament on Greek vases ; Russian icons ; the Musée Guimet.

L'Anthropologie, tome xxxviii, nos. 1-2 (April 1928). Of special interest is Dr. Henri Martin's account of the Solutré workshop of Le Roc, Charente, and its frieze of figures in high relief. The chief animals represented are horses ; and the inclusion of men in hunting scenes is certainly exceptional. The strangers who introduced the culture of Solutré seem to have been of Mongoloid type. Prof. Renaud has an article on the antiquity of Man in North America (p. 23), and discusses the evidence for *Hesperopithecus*, for which see also a note on p. 208. M. Piroutet has a short paper on human races in the Neolithic and Bronze Ages of Franche-Comté ; and Dr. René de St. Périer illustrates some palaeolithic fishing implements. Points of interest in the reviews are the following : the occurrence of *Cuon alpinus* and a species of sheep in the Observatory cave at Monaco (p. 152), reported in the first *Mémoire* of the Institute of Human Palaeontology ; and in the second are noticed some of the lesser animals represented in Quaternary art (p. 153). On p. 155 fresh discoveries of human figures in the caves of Ariège are noted (p. 155), as well as the later exploration of the Tarté cave. Aurignac remains in Moldavia and Moravia are recorded (p. 156, cf. p. 213) ; and the terminology of the South African Stone Age is discussed (p. 161), also the changes of sea-level in Neolithic times. The work of Miss Gardner and Miss Caton-Thompson in the Fayûm is reviewed (p. 168) ; also Mr. Evans's papers on the Ethnology and Archaeology of the Malay peninsula (p. 187). Early Pleistocene human teeth found in China are mentioned in a preliminary note by Prof. Boule (p. 210).

Revue Anthropologique, 1928, nos. 1-3 (Janvier-Mars). A paper on the similarity of the neolithic flint industry at Fouron St. Pierre, Fouron St. Martin, Remersdael (Liège), and Fontainebleau and Montmorency, is contributed by MM. Hamal-Nandrin and Servais, with illustrations that might easily be improved upon. M. Champion deals with the Glozel finds from the technical point of view, identifying some of the metal tools used.

Nos. 4-6 (Avril-Juin 1928). M. Jan Eisner summarizes recent archaeological discoveries in Slovakia and sub-Carpathian Russia, with a bibliography but no illustrations. New examples of prehistoric art in Portugal are reproduced by M. Mendes Correa, consisting of

rock paintings and carvings, and three engraved plaques from the Galinha grotto. Other articles deal with Folk-lore and anatomy.

Bulletin de la Société scientifique, historique et archéologique de la Corrèze, vol. 50, part 1, contains:—The regular clergy in Limousin at the end of the *ancien régime*; Uzerche and its seneschals, by M. de Lamaze; A literary circle at Tulle, by R. Fage; Notes on the history of the Reformed religion at Argentat (1555-1757), by A. Muzac; Bibliography by Dr. Grillière and G. Soulié.

Mémoires de la Société Archéologique de Montpellier, vol. 9, part 2, contains:—The visit to Montpellier of James the Conqueror, King of Aragon, by E. Bonnet; The inheritance of Guillaume de Noyonet, by L. G. Thomas; The first port at Cette constructed during the reign of Henri IV (1596-1605), by E. Bonnet; Scheduled historical monuments of the Department of Hérault.

Bulletin historique de la Société des Antiquaires de la Morinie, part 276, contains:—The visit of the Infanta Isabella, Governor of the Netherlands, to Saint-Omer in November 1625, by Dr. Lemaire; The existence of a mint at Ruminghem: the ancient lords of Ruminghem, by J. de Pas.

Bulletin de la Société Archéologique et Historique de Nantes et de la Loire-Inférieure, vol. 67, contains:—The entry of Charles IX into Nantes, 12 October 1565, by L. Grimaud; The last generalissimo of the army of the Vendée, by G. du Plessix; Two unpublished writs of Anne of Brittany and Henri IV found at Bourg-de-Batz, by A. Audigé; The Château of Hibaudière, called the Château d'Aux, by F. Guilloux; Old Paris and its puncheons, by F. Duet; Joseph Fouché, Duc d'Otrante, by D. Barthélémy; The official perversion of place-names, by G. Durville; Discovery of late neolithic implements at Chéméré, by P. Pouzet; An amateur performance at Nantes in the eighteenth century, by J. Marion; A hunting permit, by J. Marion; Medal of the Jubilee of 1851, by P. Soullard; The dolmen of Saint-Nazaire, by M. Baudouin; Blain during the Revolution, by H. Sorin; Statutes of the Master-Jewellers of Nantes, by E. Evellin; In the time of the Chouannerie: the adventures of Dupré Pierre known as Tête Carrée, by D. Barthélémy; The epitaph of two Spaniards living at Nantes in the fifteenth century, by M. Giraud-Mangin; Journal of the States of Brittany held at Nantes in 1636, by A. Bourdeaut; Two neolithic implements found in the Loire, by G. Durville; The porch of the Hôtel de Ville at Nantes destroyed in 1793, by L. Delattre.

Précis analytique des travaux de l'Académie de Rouen, 1926, includes:—Valognes, a literary and aristocratic town, by P. Lecacheux; Barbey d'Aurevilly and Norman architecture, by P. Chirol; The founders and keepers of the Rouen Museum, by F. Guey; Quimper and its museum, by S. Frère; Secret Catholic Societies in the diocese of Rouen in the seventeenth and eighteenth centuries, by A. Féron; The congregation of gentlemen founded in the College of Jesuits at Rouen, by A. Féron; Madame de Sévigné, by E. Prudent; Étienne de La Vallée Poussin, historical painter and decorator (1735-1802), by Mlle M. J. Ballot; Nicolas Poussin, by P. Chirol; Science and archaeology in Rouen in the nineteenth century.

Mannus, Band 20, Heft 1-3, contains:—Nature and conventionalism in plastic art, by J. Strzygowski; The problem of the division of the Ice Age, by J. Bayer; Early Stone Age discoveries in Westphalia, by J. Andree; The oak in Indo-Germanic prehistory, by Dr. Nietsch; The Bronze Age cemetery at Erfurt, by E. Lehmann; The chronology of Germanic brooches of the early Roman Empire, by H. Preidel; Gods, saints and demons, by E. Fung; Early Stone Age discoveries in the Lürmecketal, by E. Henneböle; A palaeolithic artifact (?) from the Saaletal at Weissenfels, by G. Sängner; A microlithic site at Holzminden a.-d.-Weser, by C. Sauermilch; The southern group of the funnel-necked beaker, by K. H. Marshalleck; House-shaped urns from Heeseberg near Jerxheim, by T. Voges; Two La Tène sites at Artern, by W. Schultz; The Hermunduren-Thüringer and the early historic population of Bohemia, by W. Schultz; More about the Angrivarian wall, by F. Knoke; Excavation of the earthwork at Lossow, by M. M. Lienau.

Nassauische Annalen, vol. 48, contains:—Finds of 'Michelsberg' and 'Rössen' cultures at Schierstein, by F. Kutsch; A Christian Frankish grave at Hochheim, by F. Kutsch; Castles of the period of the Ottos in the district of the middle Rhine, by F. Behn; A late Bronze Age grave at Erbenheim, by F. Kutsch; Bronze Age swords in the Nassau museum, by F. Kutsch; Early La Tène tumulus and 'Michelsberg' pits at Rauenthal, by F. Kutsch; The Counts of Wied, by L. Wirtz; An alleged Carolingian monastery at Höchst, by P. Wagner; The criticism of Rhenish charters, by G. Sedler; The position of the Orange-Nassau government in Dillenburg during the Seven Years' War, by W. Hoffmann; The site of St. Adelheid's chapel at Biebrich, by G. Kraus; The history of Nassau manuscripts, by T. Schneider.

Nassauische Heimatblätter, vol. 28, contains:—History of the house of Helmsdorf at Rodenroth, by L. Hörpel; The ancient boundary of the Dornbach up to the Rhine at Niederwalluf, by A. Herber; The 'Oberhof' of Eltville, by O. Zott; Limburg through the centuries, by Prof. Otto; The last years of the Realgymnasium at Wiesbaden, by C. H. Müller; An old hunting privilege of the monastery of Gronau, by A. Herber; A quarrel between the Imperial Post and the local authorities over the postal arrangements in Nassau, by A. Henche; Local museums, by F. Kutsch; The date of the building of the quire of the Marienstatt abbey church in the Westerwald, by E. Stiehl; Two Renaissance grave stones in the Rhine province, by Dr. Heubach; Efforts towards toleration in Nassau-Weilburg, by I. A. Schmidt; The family vaults of the Freiherren von Esch in Montabaur, by H. Becker.

Oudheidkundige Mededeelingen uit 's Rijksmuseum van Oudheden te Leiden, vol. 9, part 1, contains:—A Roman villa at Buchten, by J. H. Holwerda; Settlements at Stein on the Maas, by J. H. Holwerda; Excavation of Roman buildings at Stein, by A. E. Remouchamps; The terrain north of the Ur, by J. H. Holwerda; A Germanic oppidum at Stein, by J. H. Holwerda; Description of the finds from Stein, by Dr. Beckers; The Roman castellum at Valkenburg, by A. E. Remouchamps; Tumulus investigations, by A. E. Remouchamps.

Rendiconti della Reale Accademia Nazionale dei Lincei, ser. vi,

vol. iii, fasc. 11, 12 (Nov., Dec. 1927). Heraclitus, Ephesus, and the East, by Luigia A. Stella, a study of the complex of influences (especially Persian) under which Heraclitus lived at Ephesus, and their effect on his teaching; Hypnos and Bios, suggestions about two passages in the Oedipus at Colonus, by N. Festa; The argument of analogy in juristic logic, by B. Brugi; Memoirs of Isidoro Del Lungo (1841-1927) and of the philologist Luigi Ceci (1859-1927), the latter by N. Festa with bibliography.

Przegląd Archeologiczny, vol. 3, no. 3, contains:—The prehistory of Russia, by L. Sawicki; Primitive Finnish civilization in western Poland, by K. Jazdzewski; The terra-cotta model of a so-called pile dwelling in the collection of M. E. Majewaki, by V. Ščerbakivskij; Excavations in Volhynia in 1926, by I. Sawicka; Materials for the prehistory of Upper Polish Silesia, by J. Kostrzewski; Excavations at Tarnowica, by J. hr. Szeptycka; Celtic coins found in Poland, by Z. Zakrewski; New acquisitions in the prehistoric section of the Museum of the Scientific Society of Poland, by J. Kostrzewski; New acquisitions in the prehistoric section of the Polish Museum, by A. Karpinska.

Kungl. Humanistiska Vetenskapssamfundet i Lund: Årsberättelse, 1926-1927, contains:—Two Tholos tombs at Bodiå in the eastern part of Triphylia (in English), by N. Svensson; History of the farmhouse in Skania, by G. Gustafsson.

Forvännen: Meddelanden från K. Vitterhets Historie och Antikvitets Akademien, 1928, häfte 1 (Stockholm). The weaving of medieval ribbons is illustrated by Agnes Geizer, the process being known as card-weaving (Swedish *brickband*). A hoard of unfinished iron tools found at Gårdby was accompanied by the figure of a horse made of thin bronze, and other iron deposits are recorded from Öland by Gustawsson. The recovery of worked timbers from under water at Tingstäde is illustrated by Zetterling; and a bronze figure from Öland identified as a horseman by Friis, who attributes it to the Iron Age. Among the smaller contributions are illustrations of finds, including amber beads, a bronze sword, bronze brooch, and pottery, in graves of different periods.

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Books only are included. Those marked * are in the Library of the Society of Antiquaries.

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- *A report on American Museum work. By E. E. Lowe, Ph.D., D.Sc., Director, City Museum and Libraries, Leicester. Published by the Carnegie United Kingdom Trustees. 11 x 7½. Pp. 50. Edinburgh: Constable, 1928.
- *County Borough of Southend-on-Sea. Twenty-second Annual Report of the Public Library and Museum Committee, 1927-8. 8½ x 5½. Pp. 24. Southend-on-Sea, 1928.
- *City of Manchester. [Catalogues of] Pictures, Furniture, Enamels, and a collection illustrating the Dawn of Art [with introductions by Sir William Boyd Dawkins and Lawrence Haward]. 7½ x 4½. Pp. 31. Manchester, 1928.

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